# A Paper
ON
# "OPTIC NEURITIS," "CHOKED DISC," OR "PAPILLOEDEMA":

## *TREATMENT, LOCALIZING VALUE, AND PATHOLOGY.*

DELIVERED BEFORE THE SECTION OF OPHTHALMOLOGY OF THE BRITISH MEDICAL ASSOCIATION AT BELFAST.

BY SIR VICTOR HORSLEY, F.R.S., F.R.C.S.,

SURGEON TO THE NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, QUEEN SQUARE, AND CONSULTING SURGEON TO UNIVERSITY COLLEGE HOSPITAL.

[WITH SPECIAL PLATES.]

THE mechanical factor discovered by the injection experiments of Manz[28–30] in 1870 to be the primary cause of papilloedema,* choked disc, or "optic neuritis," has been confirmed by many observers, and now most recently by the researches of Cushing and Bordley.[5]

Clinically, my demonstration[18–25] since 1886, and especially in 1890, at the International Congress in Berlin, that the mechanical release by trephining in cases of increased intracranial tension due to cerebral tumours, etc., causes the disappearance of "optic neuritis," affords, as I then suggested, the converse proof of the same pathological principle, though Sir William Gowers[13] has pointed out that, however correct the facts, this inference is not absolute; and, as Sir Henry Swanzy[43] critically sums up the matter, "a completely satisfactory theory of the causation has not yet been propounded."

Of course, though the mechanical view ought in my opinion to be accepted as established, I have always† admitted that, scientifically speaking, we cannot exclude the possibility of other contributing factors existing and co-operating to produce papilloedema. Moreover, according to Elschnig's[11] view (if I understand him correctly), in the case of papilloedema from brain tumour the mere swelling or oedema might be regarded as *accompanied* or not by a neuritis, as the case may be. Thus, in his first figures (Taf. III, Figs. 1 and 2), which I would regard as a beautiful proof of my view that ipsolaterality of tumour and maximal papilloedema is the rule, he regards the more greatly swollen right disc as "oedematous," and the left as in a state of "neuritis optica." In fact, the heading of the case is stated by him as "hemoglioma cerebri" (right occipital lobe), "rechts frische stauungs papille, links neuritis optica." He also expresses his position very strongly as follows,[6] p. 271: "In not a single case does oedema of the optic nerve or of the papilla exist without inflammation." Of course, this depends on what we are to understand by the term "inflammation." The pathological degenerative changes in papilloedema, the histology of which I deal with later, are, I venture to suggest, not correctly termed inflammatory.

Elschnig's view is essentially an expansion of Deutschmann's[9] original method of regarding the subject, since Deutschmann said, first, that a choked disc is but a higher degree of neuritis.

In the present paper I have no new facts to throw light on this important question of the immediate causation of optic papilloedema, for discussion of which I must refer to Saenger,[40] to v. Hippel's summary,[17] and to Thorner's paper immediately following in the same *Archiv*, but I am anxious to bring forward some considerations respecting the whole process, and particularly on its clinically localizing value, which I believe to be very high.

After 1890, my attention in operating for intracranial disease was directed not only to the obvious need of palliative trephining‡ (see [18–20]) to stop "optic neuritis" and save the sight, but also especially to the further question whether the effects of the raised intracranial tension was more pronounced, and therefore the intensity of the optic neuritis greater, on the side of the lesion or not. That the neuritis should be probably ipsolateral was suggested to me in a case I published in 1884. It was not, however, till I had had the experience, after 1886, in operating on a number of tumour cases that I published[21] in 1895 my view that ipsolaterality of the lesion and neuritis was the rule, and I then for measurements of the swelling, etc., relied on the assistance of my late greatly-regretted colleague, Mr. Marcus Gunn. In 1896 Dr. Middelton Martin[32] commenced a valuable investigation into the subject of the localizing value of optic neuritis. He examined the facts of a very large number of the patients at the National Hospital, Queen Square, including my cases, as well as the records of many others from other sources, 600 in all. As regards ipsolaterality he found that of 55 cases in which the relative point was specifically noted the "neuritis" was greater on the side of the lesion in 39 cases—that is, in 71 per cent.

Also Dr. R. T. Williamson[47] published in 1896 an elaborate study of frontal lesions in which he collected 50 cases from all sources, including the National Hospital for Paralysed and Epileptic. Of these he states that of 35 cases the neuritis was either unilateral or definitely more marked on one side in 7 cases, in 6 of which the marked ocular changes "were on the side of the lesion." It will be seen presently that the three frontal lesions described below as seen by me during the last twelve months fulfil this to the letter, and substantiate the practical value of the indication which has also been expressed by Dr. Purves Stewart[42] in his textbook.

Bruns[2] in 1898 referred to unilateral neuritis as a symptom which was only important with further accompanying evidence.

The conclusions of Dr. Martin and Dr. Williamson were founded on the degree of swelling, but it always seemed to me that the severity of the intracranial pressure could be judged more precisely by the secondary histological changes in the disc, and therefore I have for a number of years based my estimation of the neuritis more upon these appearances than on the simple amount of swelling.

Such a course was also necessarily dictated in advanced cases by the difference in time and degree of the neuritis in the two eyes, that is, leading to subsidence of one into atrophy while the swelling of the other was rising.

All these points I have dealt with before, and need only refer to my previous publications[21–24] on this subject.

I now wish to communicate facts on certain points in the hope of facilitating answers to the practical questions which must be answered in every case, namely, On which side of the head is the operation to be performed, and what will be the amount of recovery or maintenance of sight?

### *Points for Discussion.*

1. The localizing diagnostic value of papilloedema or optic neuritis.
2. The part of the disc which first becomes oedematous as a consequence of increased intracranial tension.
3. Proof of Mr. Marcus Gunn's view of the mechanism whereby the macular or star figure ("stern figur") is produced.
4. The phagocytes of the retina in neuro-retinitis and their origin.

### 1. THE LOCALIZING DIAGNOSTIC VALUE OF OPTIC NEURITIS.

My view that we have a valuable aid to clinical diagnosis in the fact that the papilloedema begins on the side of a tension lesion, and as a rule is more severe than that on the opposite side, is of course in direct opposition to the brief notice on the point by Deutschmann, who at the end of his well-known tract (p. 67) quotes three cases of uniocular neuritis known to him (curiously enough all from English literature) which, by contradicting each other as to ipsolaterality of the tumour and the "neuritis," in his opinion negatived the possibility of framing successfully any theory whereby the phenomena of papilloedema may be explained.

Last year also my general statement made[22] on the subject at the meeting of the Association at Toronto in 1906 was questioned by my colleague, Mr. Leslie Paton, who formulated[27–28] to the Ophthalmological Society certain

* This term, introduced by Parsons,[35] has been supported by de Schweinitz[3] as a more scientific appellation of a condition now generally regarded as not truly an inflammatory process.

† Cushing and Bordley in their footnote, p. 86, seem to have misunderstood my position on this question.

‡ Now conveniently spoken of as decompression.

conclusions from a statistical survey of our cases at the National Hospital for the Paralysed and Epileptic.

As I pointed out in the discussion[37] of his paper at the Ophthalmological Society, his results were not only vitiated by the well-known error of throwing all clinical cases together, but also by the fact that his conclusions were in the main based on the degree of swelling. This, as I have just stated, is not so instructive as the minuter degenerative changes in the disc, which must be considered as of prior importance, and without the discussion of which in each case with the clinical and the operative or *post-mortem* findings, statistics are useless.

Mr. Paton's last paper, published in *Brain*, July, 1909, deals also with our cases at the National Hospital up to the end of the year 1907.

It is a curiously instructive commentary on the fallibility of clinical statistics that Mr. Paton's conclusions are founded on the records of the National Hospital for the Paralysed and Epileptic, among which are some of my own cases, by the detailed examination of which and of my private patients I had previously arrived at the opposite conclusions to which Mr. Paton has now come. But not only is this the case, but also my cases for 1908 at the National Hospital equally contradict Mr. Paton's figures.

All my cases at the Queen Square Hospital have been repeatedly and carefully examined by my medical colleagues, especially by Mr. Marcus Gunn and Mr. Paton, my ophthalmological colleagues, and by myself. I therefore, since the discussion in April, 1908, have more especially noted my opinion of each case and compared it with that of Mr. Marcus Gunn and Mr. Paton. The result is agreement as to the degree—that is, including age—of the neuritis on the two sides. I have now placed in the following table, in the order of their occurrence, the tumour cases at Queen Square which I have during the past year personally examined and by removing the tumour proved the position of the lesion (I include one simple decompression case, No. 17, for special reasons, *vid. infra*).

As a fact, also, these cases are of far better value than *post-mortem* material, since in the latter case the tension condition of the brain at the time of death by no means corresponds to the pressure conditions existing at the date of onset or observation of the neuritis. The necessity of closely considering the intracranial pressure conditions at the varying periods of any case is naturally not dealt with or met by Mr. Paton's statistics. I shall presently recount in some detail one or two cases which specially bear on this point, but may draw attention meanwhile to Cushing and Bordley's researches in this connexion.[5] Thus of their two artificial tumour cases, in the first, in which they had set up general internal hydrocephalus, the papilloedema began contralaterally, while in the second, in which there was no such universal pressure complication as internal hydrocephalus, the ipsolaterality of the papilloedema and the artificial tumour was complete, and remained so till death eighteen days later. As regards their experiments of the injection of fluid into the subdural space of one side, they say they have "not infrequently seen the oedema of the disc and retina occur first in the opposite eye to be followed later by equal changes in the near eye."

Nothing less could be expected from the Manz method of experimentation they employed—namely, injection of fluids—which, though of the highest importance on the question of the mechanical factor in general, necessarily does not give defined results of localizing value on the subject of laterality.* The experience of the same authors with the clinical evidence offered by growing neoplasms is distinctly in favour of ipsolaterality—namely, 70 per cent. of all cases; while in their series the first swelling was ipsolateral in 80 per cent., and in 72 per cent. the greatest injury resulted to the nerve of the same side.

I now give in brief tabular form a list of the uncomplicated tumour cases in the fortuitous order of their admission to hospital which have been examined during 1908 by Mr. Paton and myself.

* In the discussion on this paper, Dr. Thomson Henderson[16] pointed out that the intracranial contents were often erroneously regarded as offering the physical conditions of a fluid, whereas the dural falx and tentorium by their resistance prevented general hydrostatic diffusion of pressure; and further, that since he had shown that the intracranial and intraocular pressures corresponded to the same capillary venous pressure, ipsolaterality of the effect of raising the former was to be expected.

TABLE OF UNSELECTED TUMOUR CASES UNDER SIR VICTOR HORSLEY, IN WHICH SITUATION OF LESION WAS DETERMINED BY OPERATION DURING 1908.

(From the National Hospital for the Paralysed and Epileptic, Queen Square.)

*Extracts from Hospital Notes.*

| *No.* | *Date of Admission or Date of Operation.* | *Lesion.* | *Remarks on the Relation of the Papilloedema to the Lesion.* |
|---|---|---|---|
| 1 | Nov. 15, 1907 (operation, Feb. 18, 1908) | Left Rolandic area tumour | Indeterminate. Mr. Gunn's note: R.+3. L.+2.5. Tiny haemorrhage noted in right eye. Mr. Paton's note: R.+3. L.+3. |
| 2 | Feb. 10, 1908 | Right frontal tumour | Ipsolateral. Right: Very intense neuritis with haemorrhages and white exudate. Left: No haemorrhages and less exudation. Day before operation left swelling became equal to right, and possibly more. Diagnosis of side of lesion based wholly on the neuritis in this case. |
| 3 | Feb. 18, 1908 (operation) | Right subcortical Rolandic tumour | Ipsolateral. Vision: R. $\frac{6}{9}$. L. $\frac{6}{36}$. Mr. Paton's notes: Left fundus more flecked and disc striate. One week after operation left better colour than right. |
| 4 | Mar. 9, 1908 | Left parieto-occipital tumour | Ipsolateral. L. + 6. R. 5.5. |
| 5 | April 21, 1908 | Left eighth nerve extra-cerebellar tumour | Ipsolateral. R. + 6. L. + 6. Left, veins more distended and small haemorrhages. |
| 6 | May 4, 1908 | Left extra-cerebellar tumour | Ipsolateral. L. + 6. R. + 5. |
| 7 | May 25, 1908 | Left temporo-sphenoidal tumour | Ipsolateral. L. + 8. R. + 7. Neuritis older in left. |
| 8 | May 29, 1908 | Right frontal abscess | Ipsolateral. R. + 1.5. L. no neuritis. Papilloedema gradually developed in left eye. Patient comatose and impossible to obtain localizing symptoms as to size of lesion except by the neuritis. |
| 9 | June 15, 1908 | Right temporo-sphenoidal tumour | Ipsolateral. R. + 8. L. + 7. Neuritis more intense right than left. |
| 10 | June 26, 1908 | Right Rolandic tumour | Probably ipsolateral. Notes not full. Mr. Gunn's note: Globes unsteady. R. + 5. High colour. Edges invisible. L. + 5.5. Physiological pit not filled. |
| 11 | Sept. 14, 1908 | Right and midline frontal tumour pressing on left optic nerve | Ipsolateral. R. + 7. Intense neuritis. L. retro-bulbar changes. No swelling nor blurring. (See Sir W. Gowers, *Lancet*, July 19, 1909.) |
| 12 | Sept. 28, 1908 | Right temporo-sphenoidal cerebritis | Ipsolateral. Swelling equal. Changes in right disc older than those in left. |
| 13 | Oct. 10, 1908 | Right ponto-cerebellar tumour | Ipsolateral. Vision: R. $\frac{6}{9}$, L. $\frac{6}{12}$. Right + 8. Left + 8. Both fundi exhibit white spots. Macular figures. Note kindly furnished by Mr. A. L. Whitehead: "Sept. 18, 1908: Neuritis is more marked in right fundus, where also are some haemorrhages." |
| 14 | Feb. 12, 1909 | Right fronto-parietal tumour | Ipsolateral. Right + 3. Left 2.5. Haziness and blurring, and converging of vessels more marked on the right. Haemorrhages appeared right before left, and more marked. Vision $\frac{6}{9}$ both eyes. Right disc became whiter earlier than left. |
| 15 | Mar. 3, 1909 | Left cerebro-pontine tumour involving midline. Limits not determined at operation | Ipsolateral. Left + 4. Right + 3. Left oedema wider spread and redder than right. |
| 16 | Mar. 26, 1909 | Left Rolandic area tumour | Ipsolateral. Left + 3. Right + 2. Left edge of disc blurred; right ditto, but perceptible. Diffuse haemorrhage left; none right. Left swelling steeper than right. |
| 17 | May 7, 1909 | Parieto-temporal. ? Left subcortical tumour. Decompression operation, tumour not seen | ? Contralateral. Papilloedema began under observation in the right fundus; always more intense right than left. May 17, 1909: R. + 3, few haemorrhages; L. + 2, no haemorrhages. |
| 18 | June 17, 1909 | Left eighth nerve extra-cerebellar tumour | Ipsolateral. Left papilloedema mottled white and extending further into retina than on right side. L.+5. R.+4. Large haemorrhage in left, tiny ditto in right. |

The table speaks for itself, and the results are simply in my opinion typical of the condition, namely, that ipsolaterality of the tumour and the neuritis is the rule, and that contralaterality is the rare exception. The only case, indeed, of apparent contralaterality which occurred among my hospital cases during the year is the decompression case No. 17. I include it because everything pointed clinically to the diagnosis being accurate, but the tumour was not seen at the operation, and therefore even this case remains uncertain. Before examining further into this question of contralaterality I wish to draw attention to the fact that among even these unselected 18 cases, in no less than 2 the correctness of the localization diagnosis depended wholly on the degree of the neuritis. If the responsibility of the surgeon can be thus relieved on the all-important question as to which side of the head he is going to open, what better demonstration of the truth of my clinical position can be offered?

To the facts in the table I desire to add the histories of three cases from my private practice during the past year, not only because they bear directly on the question of contralaterality, but because they illustrate my contention that any discussion of papilloedema to be profitable must include a detailed consideration of the clinical features in each case.

*Case I.*

The first case, which had been referred to me as an "unusual case of general paralysis accompanied by optic neuritis," had been under observation for a long time, consequently the patient was already blind in one eye. When I examined him I found a highly intelligent man, presenting relative absence of psychical initiation, loss of memory, loss (both nostrils equally) of intellectual appreciation and determination of odours, but absolutely no other symptom. There was consequently no means of localizing the side of the lesion, except by the degree of neuritis. I found the character of the neuritis in the two eyes to be:

Right: Opal-glass-like* swelling of disc.
Left: White spots over oedematous disc.
Vision.—Right: No perception of light. Left: Reads easily small print with correction.

Mr. Harold Grimsdale examined and very kindly reported the case as follows:

Vision.—Central acuity. Right: No P.L. Left: $\frac{6}{9}$ N. with correction. Swelling.—Right: + 3 (was + 4 four months ago). Left: Higher than before.
A copy of Mr. Grimsdale's perimetric chart of the left field is given further on (Fig. 24).

Thus the papilloedema of the right side was subsiding into extreme atrophy, while that of the left was in full development. On the evidence of the neuritis, I made finally the diagnosis of a frontal tumour on the right side, and removed from the right frontal lobe a very large endothelioma which also sent a small tongue of growth around the falx into the left side, thus pressing on both olfactory tracts and bulbs.

*Case II.*

Another interesting case which exhibited apparent contralaterality I will now briefly detail, as it exemplifies extremely well the futility of quoting one clinical feature —for example, the papilloedema—of a case without regard to other concurrent conditions or the changes in the circumstances of a case especially as regards the intracranial pressure.

The patient was seen by one of my colleagues, who diagnosed cerebral tumour. No neuritis was then present. Within four days, when I first saw the patient, paresis of the right third and sixth nerves developed and papilloedema commenced—right + 3.5, left + 1.5—the oedema changes being distinctly more marked on the right side. The other clinical symptoms also pointed to the right hemisphere being the seat of severest pressure. The patient was extremely stuporous, and this suddenly deepened early in the morning on the day on which a right temporal decompression was performed. The coma was not relieved, but deepened still further, and terminated fatally in three days. The papilloedema had greatly developed with haemorrhages, and, as will be seen in the photographs Figs. 3 and 4, the change was now most severe in the left fundus. The explanation of this reversal was furnished by the autopsy.

As is shown in Fig. 8, the tumour was originally really in the left frontal lobe close to the mid-line, but exerting its most severe pressure downwards on the right hemisphere through the corpus callosum and the anterior third of the ventricle to the base. Further, as shown in Fig. 7, the growth also infiltrated both sides of the mesencephalon, and caused, in addition to other focal haemorrhages, one very precisely limited to the nucleus of the right third nerve.

Thus the greater incidence of the papilloedema and peripheral nerve paralyses on the right side was accounted for. Finally, the cause of the sudden increase of pressure and of the greater development of the left papilloedema during the last few days of life was found to be due to an extensive haemorrhage from the surface of the tumour through the superior frontal gyrus and spreading all over the left hemisphere. The intensity of the papilloedema thus varied directly with the side of greatest pressure.

*Case III.*

I also desire to give briefly the facts of a third case to show how reliable the papilloedema is among the other clinical symptoms and how it can sometimes afford better guidance than equivocal nerve phenomena.

It was that of a science student who after three indeterminate epileptic fits had become stuporose. The difficulty of examining him was great, but he presented very markedly symptoms of pressure on the right cerebellar peduncle, and occasionally according to his friends speech difficulty (? paraphasia). The papilloedema was most intense, as shown in the photographs of the fundi (see Figs. 1 and 2), on the left side. As the level of pressure was clearly tentorial I decided to make the decompression opening (for no more could be attempted) in the right cerebellar fossa to obtain the maximal drainage.

He succumbed, however, to shock, and at the autopsy it was found that, as shown in Fig. 14, he was suffering from a cystic tumour of the left temporal lobe at the incisura occipito-temporalis, which caused severe distortion of both halves of the mesencephalon and optic thalamus.

If the nerve symptoms had been ignored and the decompression made (as the neuritis suggested) over the left temporal lobe, it is probable that the fatal termination of the case might have been postponed and the chance, however small, of removing the lesion given to the patient.

In this case, therefore, the degree of the neuritis and secondary changes in the fundus were of the first importance in the clinical condition and care of the patient.

The photographs of the fundi in the foregoing cases show that the occurrence and development of haemorrhages is also of notable importance in estimating the degree of papilloedema. In holding this view also I am sorry to find myself in conflict with Mr. Paton's figures (compare also Figs. 5 and 6).

I need not multiply such cases, but they will serve to support my contention that when a case of apparent contralaterality of tumour and papilloedema occurs the pressure conditions of the case must be most carefully reconsidered from every possible point of view to avoid error, for my experience, at any rate, goes to show that where the details of clinical observation are collated the safest guide to follow is the papilloedema. I have little doubt that, provided the circumstances of the intracranial tension at different times in the evolution of the case are adequately inquired into, all apparent anomalies and contradictions of the ipsolaterality rule I have suggested will diminish and ultimately disappear.

2. THE PART OF THE DISC WHICH BECOMES OEDEMATOUS.

Following on the suggestion I made three years ago that the papilloedema always begins at the upper nasal quadrant of the papilla, and not, as has also been suggested, its lower border, further observation has convinced me that this is the rule, and therefore that in suspicious cases the changes in this region of the disc must be carefully and constantly watched. On this point I have this year had the special opportunity of examining *post mortem* two early cases of neuritis.

*A term I use to indicate the intensely atrophic appearance of a still swollen disc which is often seen in unrelieved cases of slow-growing tumours, and in which papilloedema has lasted many months.

On removal* of the eyes in both cases it was noticeable that the retrobulbar ampulla was in both cases most marked on the dorsum of the nerves. This is well shown in the photograph (Fig. 9) of such an eye in profile, and on section (see Fig. 10) the sheath is seen to be most distended in its dorsal region. A converse proof of the same fact is afforded by Mr. Grimsdale's accompanying perimeter chart of the left field (Fig. 24) in Case I detailed above. It will be seen that the contraction of the field is most marked in its lower border. Such a result † will probably be only found in severe cases (compare the charts of simpler cases published by Dr. Charles[4]), a good example of which is the chart, Fig. 67 of Mr. Adams Frost's[12] beautiful atlas.

Probably a simple structural explanation of this exists; but whatever this may prove to be,‡ the anatomical fact is, I believe, constant. Quite recently my view has also been confirmed by the experiments of Cushing and Bordley. The two successful cases by these observers,[20 21] in which they introduced sponge tent as a source of elastic compression, are those I would refer to. Even in the first (in which hydrocephalus was also set up) the right eye (contralateral) began first to exhibit choked disc appearances in "the upper part," the left following later.

That, as regards the lateral halves of the disc, the neuritic swelling should be greater on the nasal side was originally discussed in 1879 by Kuhnt, who showed that the specially loose connective tissue lying under the disc in front and to the outer side of the choroidal aperture, forming a transition element between the highly organized tissue of the retina and the connective tissue of the perineurium, was greatly developed on the nasal side and less on the macular side Consequently the disc rises more on the nasal side in proportion as this "intermediary tissue," as Kuhnt called it, becomes tumefied and constitutes the "Wulst" of German authors.

Sir William Gowers has pointed out for many years that the greater mass of nerve fibres of the inner half must afford more scope for the occurrence of greater oedema swelling on the nasal side. The accompanying photographs (Figs. 3 and 4) show not only this, but also, what is of greater practical importance, that the white degeneration spots commence on the nasal side of the disc at the point of greatest tension, namely, the edge of the glacis of the elevation—that is, just beyond the projected border of the normal disc. The spread of the oedema, therefore, is from the top down the nasal half first, and later the temporal half. Consequently the lower outer quadrant is the last to be obscured (Figs. 5 and 6). Conversely I have often watched a disc clear in the opposite order.

In reference to this question of the localization in the disc of the initial changes, especially in considering their mechanical causation, it is necessary to keep in mind the fact that a toxic papilloedema—for example, produced experimentally in animals by extract of filix mas—

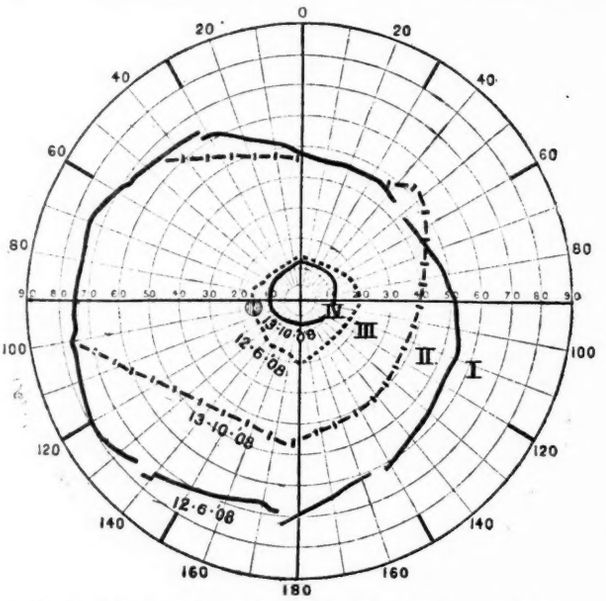


Fig. 24.—Mr. Grimsdale's chart of the left visual field in Case I.

evokes a swelling of the papilla, according to Nuel[33] presenting for a fortnight or more "absolutely the appearance of a papilla in typical stasis" (loc. cit., p. 18)—that is, choked disc, without producing distension of the sheath. In this connexion Nuel also refers to Parinaud's contention that the distension of the sheath and production of the ampulla is not the prime cause of papilloedema from intracranial conditions.[34]

Distension of the sheath, therefore, is a secondary phenomenon, whatever the cause of a papilloedema may be. In this connexion it is interesting to note that the effects of a local injury to the sheath and vessels of the optic nerve may be more pronounced in the nasal half of the choroid and retina (see Plate X, published 1869 by Hermann Pagenstecher).

### 3. Proof of Mr. Marcus Gunn's Interpretation of the Production of the Macular Figure.

The fan-shaped radiation in the macular region, and especially between the macula and the neighbouring margin of the disc, so far as the production of its beautifully regular arrangement by oedema has been especially discussed by Mr. Marcus Gunn,[14 15] who in 1894, at the International Ophthalmic Congress (Edinburgh), drew attention to the localized foldings of the retina that occur in consequence of oedema and of what he described as "the pegging-down of the fovea centralis" compared to other regions of the retina. He suggested, therefore, that mechanical tension *plus* degenerative processes in the retina accounted for the figure. In his discussion of the perfection of the pattern, Mr. Gunn pointed out truly that any radial arrangements of Müller's fibres cannot be properly invoked in explanation. The question thus raised is an interesting one, and is associated with the further question of the normal conditions, especially the so-called plica centralis. Hannover said: "The so-called plica centralis does not exist in the human eye," and from his time to that of Ginsberg it has gradually been recognized that this is true. But the scientific demonstration of the fact has now been established by the exquisite photographs of the living fundus by Dimmer.[9 10] (See especially the striking figures of Plate VIII of his monograph.) It is as a consequence of *post-mortem* change that the macular region tends to be raised in a ridged form, the long axis of which is directed horizontally towards the disc. This is well shown in the figures (Figs. 1–6). This folding is practically constant in eyes even when fixed very soon after death. In the monkey the retina also exhibits folds at exactly right angles to the ridge just mentioned, so that the fovea is the central axis of a Latin cross. The same figure may be often seen *post mortem* in the human eye. Conceivably, then, innumerable radiating lines from the macula may be drawn between these transverse axes, and thus the star figure produced. It occurred to me that this might be tested by artificially altering the physical tension in a case of slight papilloedema. I, therefore, in an eye from a case of early optic neuritis, having fixed the fundus not only with formalin and osmic acid, but afterwards with absolute alcohol, exposed the preparation to drying, so as to obtain tension effects. During life no macular figure was present nor any folds observable ophthalmoscopically, but as the drying proceeded the retina began to crinkle in a star-shaped pattern, the centre of which was the fovea. Microscopically, the intima was seen to be raised, or in other words, the effect of the tension makes itself felt first in the nerve fibre layer (see Fig. 21). This last point is important, because there evidently exists

* In all cases I fix the intact eyeball and nerve in 10 per cent. formalin solution, marking the sides and retaining the tendon of the superior rectus. Within two to five days an equatorial section of the globe is made passing through the posterior part of the attachment of the superior oblique muscle. (The orientation of the fundus for photography is thus facilitated.) During the section the bulb is held by the nerve so that some vitreous remains in the cup of the fundus. The specimen is then at once lowered into water and photographed immediately, the camera being inverted and suspended over the object. The photographs in the plates were taken ×5 by means of a Beck-Steinheil anastigmat $f = 3.5''$ and an elongated camera.

† I have since the meeting observed the same loss in the field in a similar case.

‡ Possibly the development of the elastic fibres in the nerve sheath, and to which v. Krüdener has specially drawn attention, may be greater on one aspect of the sheath than the other.

some confusion as regards the anatomy of the white spots in the macular figure and their localization according as to whether the changes in the fundus are due to cerebral tumour or albuminuric toxaemia.

Mr. Gunn, for instance, spoke as though the white spots are necessarily due to changes in the deeper layers of the retina, as in albuminuric retinitis. But both ophthalmoscopically and experimentally it is clear that the white spots, whether on the disc itself or around the macula in cerebral tumour, are in the nerve fibre layer. Since they are the most important of the secondary histological changes of value in estimating the degree and effects of neuritis, I have, in order to estimate better their degree and development, devoted some time to their study and will now discuss their formation under the more general question of the phagocytes of the retina. As being the direct consequence of the destructive influence of the oedema on the nerve fibres and tissue of the retina the spots necessarily occur first near the vessels, but particularly on the nasal half of the disc as stated above. This is specially well shown in the early neuritis photographed in Figs. 1 and 2, where they are dotted round the nasal border of the disc almost solely.

### 4. The Phagocytes of the Retina.

Excepting the ubiquitous wandering leucocytes, the origin of phagocytes and macrocytes in inflammatory foci in the nervous system has always been a much-contested matter from the time of Gluge to the most recent work by Fritz Marchand, jun.[31] As regards the central nervous system, Clarke and myself have drawn attention to the variations in these cells as occurring in electrolytic lesions. In the retina, however, as I interpret the descriptions given by the textbooks, the question is somewhat complicated by the formation of cell-like bodies which have been regarded from the time of H. Müller as "varicose nerve fibrils," though correctly described as lying in the nerve fibre layer around the bases of Müller's fibres. If I have seen the same structures, then I suggest that the current terminology is not justified (certainly they do not resemble varicose nerve fibres in any other part of the body), and that they ought to be regarded as macrocytes originating from endothelial cells normally lying upon Müller's fibres.

On studying the question in early cases of papilloedema, or choked disc, and comparing the preparations with sections from the fundus of an extreme case of albuminuric retinitis (see Fig. 13) kindly given me by Dr. Janet Lane-Claypon, it seemed clear that, apart from wander-cells (chiefly in cone layer, see Fig. 16), there are three kinds of phagocytes to be considered in the retina, of which the first two are found in the nerve fibre layer in the classical position described—namely, around the bases of Müller's fibres; and the third are the well-known singularly large cells found in the outer granule layer between the stretched and separated processes of the retinal elements and remains of the radial fibres.

#### (*a*) *Phagocytes of the Nerve Fibre Layer.*

These are the most interesting because by their aggregation and contents of fatty material they constitute the white spots on the disc in papilloedema. As typical specimens sections are shown in the accompanying photographs (Figs. 11 and 12) taken from a series made through the nasal half of the disc shown in photograph (Fig. 1).

Fig. 12 shows that the white spot consists of an opal swelling which, besides a few (1) red blood corpuscles, is principally made up of (2) masses of macrocytes, which, unstained or stained with nuclear dyes, usually exhibit in their centre a large nucleus as figured by Greeff. These macrocytes of the nerve fibre layer, however, do not take up any of the myelinic débris from the nerve fibres. They are "epithelioid" cells, and resemble those described by Nuel as arising in the softened foci of the optic nerve trunk when affected by a toxic neuritis. Stained with osmic acid they remain with clear homogeneous protoplasm, quite different to the analogous macrocytes of the outer granule layer, and in sharp contrast to the smaller black-stained corpuscles immediately to be described.

These (3), the third class of constituents of the white spot, are the phagocytes, to which its colour is really due—that is, those which contain the fatty débris. These cells, it is interesting to note, are of a totally different class; they are not wandering leucocytes, but obviously connective tissue corpuscles, and, in sections stained with osmic acid, are filled with black granules. They have the usual stellate or elongated, flattened, and branching bodies of typical connective tissue corpuscles (see Fig. 22). They lie between and among the oval macrocytes just mentioned (see Fig. 12). They do not appear to take up blood pigment from the haemorrhages, but so far I have not examined any long-standing case from this point of view. To judge from other parts of the body, this duty of absorbing free pigment granules is effected by wander-cells, and certainly, when the retinal pigment cell layer is separated by exudate, leucocytes containing pigment granules can always be found (see Fig. 20). I was much surprised to find in such a highly organized nerve structure as the retina phagocytes resembling true connective tissue corpuscles, but perhaps this is to be attributed to its finally being an ultimate part of the peripheral system. The coexistence of proliferative endothelial cells is, of course, easy to understand.

A further point of interest is that in Kuhnt's "intermediate tissue" of the disc such connective tissue phagocytes lie grouped along the blood vessels, and thus occur scattered throughout the whole depth of the disc. They occur here in albuminuric neuritis as well as in tumour papilloedema cases. In the photograph (Fig. 15) of the disc in the albuminuric case the osmic-stained section shows well the base of a white spot, and that the blackened fat-containing phagocytes lie on its surface—that is, in the nerve fibre layer between the haemorrhagic exudate and the intima.

#### (*b*) *Phagocytes of the Outer Granule Layer.*

In examining the retina in the very early but marked case of papilloedema shown in Fig. 3, I found that the inner segment of the outer granule layer had already become oedematous. Between the cell processes, separated as Iwanoff[26] originally described, lay a certain number of relatively large corpuscles adherent to Müller's fibres, and apparently of an epithelioid type (see photomicrograph). These cells are, I believe, the same as those which develop into the large phagocytes in this region in such large numbers in albuminuric retinitis (Figs. 16, 17, 18, 19). It is, of course, impossible to furnish strict proof of a statement of this kind, but by following degrees of the degenerative changes it seems justifiable to make such a conclusion. In simple papilloedema the cells in question show a very definite small nucleus near the periphery of the cell, and a body containing a finely granular protoplasm. In albuminuric retinitis the smallest of these cells contains some black granules after staining with osmic acid (Fig. 23). Among such granular cells others may be found in which the body of the cell is occupied by colloidal-looking material which stains light-brown with osmic acid, and intensely with iron haematoxylin (see Fig. 18), as well as with polychrome methylene blue, and is obviously of a proteid nature. As this material increases in the phagocytes the nucleus shrinks, is gradually pushed to the side of the cell, and finally extruded. There finally remains, therefore, a large spherical mass (Fig. 16) very often only barely showing that it is an aggregation of droplets. The origin of these amorphous-looking bodies has given rise to some discussion, but a series of sections through the neighbouring parts of the retina in any given case reveals so many stages as to sufficiently indicate their true origin from the epithelioid cells.

These large phagocytes lie in the oedema spaces artificially formed by the dissociation and destructive separation of the processes of the outer granules and the radial fibres.

### Summary.

1. The maximal intensity and age of the papilloedema or optic neuritis in cases of increased intracranial tension is of the highest value in clinical localization of the lesion, and is ipsolateral with the maximal pressure effects of the latter.

2. Papilloedema produced by increased intracranial tension commences at the upper border of the optic papilla, and invades last the inferior temporal quadrant.

3. The macular figure, as Mr. Gunn stated, is caused by tension lines centred at the fovea, the greatest stress being just beneath the intima.

4. The phagocytes of the retina consist of several kinds, as follows: (1) Wander-cells; (2) connective tissue corpuscles; (3) epitheloid corpuscles of the nerve fibre layer; (4) epithelioid corpuscles of the outer granule layer—the two latter varieties being in close relation to the supporting fibres of Müller.


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## MINER'S NYSTAGMUS.*


BY T. HARRISON BUTLER, M.D.OXON.,

HONORARY OPHTHALMIC SURGEON TO THE COVENTRY AND WARWICKSHIRE HOSPITAL.


IN all colliery centres miner's nystagmus is a very common disease. It is scheduled under the Act of 1907 as a condition for which a miner may claim compensation, and so a knowledge of its leading characteristics is essential to all medical men practising in such a district. The average ophthalmic textbook devotes only a few lines to the affection, and even the meagre information given is apt to be somewhat dogmatic and inaccurate.

The symptoms in a severe case are very characteristic. The eyes oscillate violently, the eyelids twitch, and the man appears to be, and often is, in a state of great nervous agitation. When his visual acuity is tested with the types it will generally be found to be as low as one-tenth of the normal. He is quite unable to read or to continue at his work, and will frequently complain that he cannot see his way about in the dark. But such a violent attack is uncommon, and it will be, therefore, proper to consider in detail the more usual manifestations of the affection.

The history is typical. The miner has almost invariably worked some years in the pit, and has in most cases been a "holer," one who lies on his side and undercuts the seam of coal. He first notices that at the end of a day's work the lights begin to "dance." They may dance vertically, horizontally, or in a circular fashion like a Catherine-wheel. He can for a time overcome this oscillation by looking down and resting his eyes. Soon, however, the dancing commences earlier in the day, and he more frequently has to "steady" his eyes, and finally the lights begin to dance as soon as he enters the mine, and work becomes impossible. At this period the subjective sense of movement may cause vertigo.

In the early stages of miner's nystagmus the sufferer is free from trouble when he leaves the pit, but as the disease progresses nystagmus is present when it grows dark and the street lamps are lighted. Eventually nystagmus is always noticed, even in daylight.

At the beginning of the case nystagmus only commences when the eyes are considerably raised, then it appears as soon as the gaze rises above the normal plane, and later it only ceases when the subject looks down. In fact, the severity of the attack can be accurately gauged by the angle above or below the primary position at which nystagmus can be elicited. The position of the head, however, has nothing whatever to do with the matter; nystagmus can be demonstrated just as easily in the supine posture if the eyes be directed towards the brows as it can in the erect. Peters is quite incorrect when he states that nystagmus ceases if the head be thrown back. It does so in many cases if the patient looks at the same object, but if he move his eyes back *pari passu* with his head nystagmus does not cease.

In a slight case, or one which is in process of cure, it may often be impossible to detect any nystagmus by simply raising the eyes. Reid has taught us that if we rotate the patient several times, until he is a little giddy, and then direct his eyes to the ceiling, nystagmus may appear. If we can produce no nystagmus by this method it is safe to assume, either that the case is not one of nystagmus, or that it has been cured.

The direction of the nystagmus may be vertical, horizontal, or circular. In my own practice the vertical variety has been rare. One eye may have a different kind of nystagmus from the other.

Hemeralopia may be present. Court found it in 127 cases out of 164; Dransart detected it in 5 per cent. of his patients. Romiée states that he has never seen this symptom, although he has examined several thousand individuals. My own experience has been that night blindness is undoubtedly a symptom of the disease. Probably at least 25 per cent. of all cases are unable to see in the dusk.

Visual acuity is unaffected when the eyes are at rest. If the types be placed on the floor level and the miner stand upon a chair, he may read the last line; if he sit down and the types be hung on the wall, he may fail to read the top line.

I shall now present my case to you:

T. R., aged 45, was a miner in the Newdigate Colliery, a lamp mine; had been a miner all his life.

About six months ago he began to notice that the lamps were dancing up and down. He had to sit down and "steady" his eyes. Three months ago, when he was examining the roof, a piece of coal fell upon his nose and cut his face. Had he not had violent nystagmus he would have seen that a large fragment was loose and would have avoided it. After the accident the nystagmus got much worse. He sees very badly at night, not only because everything is in motion, but because there is a "sort of mist before his eyes." He sees a little better if he looks down, but not so well as his mates do. In fact, he has slight hemeralopia.

*Condition when First Seen.*—Violent nystagmus and twitching of lids. Vision = $\frac{6}{60}$. Advised to give up his work underground entirely and permanently.

*Condition a Month Later.*—The eyes were normally at rest, but if he looked at an object fixedly for a few seconds his eyelids began to blink and twitch violently and he looked away as though shielding his eyes from a dazzling electric arc. As soon

* Read to the Coventry Division of the British Medical Association.

as he looked upwards violent twitching and vertical nystagmus commenced.

R.V. = $\frac{6}{60}$ c $\frac{-3.5}{-2, \text{ axis horizontal.}}$ = $\frac{6}{6}$

L.V. = $\frac{6}{60}$ c $\frac{-3}{-1, \text{ axis horizontal.}}$ = $\frac{6}{6}$

The fundus was normal but could only be seen with great difficulty on account of the twitching of the lids. He was unable to read even when he looked down.

The patient subsequently improved considerably, but he cannot do any work, for as soon as he looks fixedly at an object the oscillations commence.

This is a most instructive case. In the first place, it shows the classical symptoms—symptoms which have been ameliorated but not cured by rest. Before the Compensation Act this miner would have been discharged and left to starve; now the colliery responsible for his disease has to keep him!

Again, the nystagmus conduced to an accident and the accident aggravated the disease. Dransart and Romiée have shown conclusively that nystagmus often starts after an accident, and that it is frequently aggravated by an accident.

It is worthy of note that in this case the nervous agitation becomes evident as soon as the eyes are fixed upon an object. This has an important bearing upon the etiology of the disease. An analogous symptom is the inability of many sufferers to read, even though they have good vision and have no nystagmus in the reading position.

The etiology of the complaint is very obscure. The textbooks say that it is strictly comparable to scrivener's palsy, due to cramp of the elevator muscles of the eye. This is the theory enunciated by Snell, by Nieden, and by Dransart; it was for long accepted without criticism or challenge, and has been copied from book to book, rather as a proved fact than a hypothesis. To be brief, the view that the miner is always straining his eyes upwards, producing muscle fatigue, which results in nystagmus, does not account for the facts. First, the miner does not strain his eyes upwards; like other sensible mortals he makes himself comfortable and moves his head, not his eyes. Secondly, there is no proof that any muscle fatigue exists, and conclusive proof that it does not; and, finally, if muscle fatigue did exist, it would produce a tetanic and not a clonic spasm.

Nystagmus is essentially a disease of the collier; it is not found in metal mines, where men work under similar conditions to those obtaining in coal mines, but with one great difference—the metal mine is not bounded by glittering black walls.

The disease was first described at the time when the Davy lamp was introduced into mines, and as soon as the use of safety lamps was enforced by law it became very frequent—that is to say, as soon as the illumination of the miner's candle, which gives 0.5 candle power, was replaced by that of the Davy lamp with its feeble glimmer of 0.28 candle power, cases of nystagmus became increasingly frequent. The miner's lamp has been improved now, and the disease is much less common than it was. The ordinary lamp used to-day has a candle power when clean of 0.44, but as it gets covered with dust and the wick chars, its light falls off rapidly.

But darkness cannot be the sole cause of nystagmus. The employees in photographic factories who work for hours in absolute darkness, do not contract nystagmus, nor do boiler makers and other artisans who work by feeble light.

The only theory which can explain the disease is that suggested by Reid of Nottingham and Nuel in Belgium. It is a disordered cerebration, a defect in the brain, not of the eye muscles. It is produced by the peculiar work of the miner, long-continued rhythmic movements of the pick in comparative darkness. I have given the facts and reasoning which lead to this conclusion in greater detail in an article which I contributed to the *Ophthalmoscope* for August 1909. There also will be found the references to the various papers on the subject.

Snell attempted to show that compositors and other workmen do at times get occupational nystagmus, but a critical examination of his cases will lead to the conclusion that these men did not suffer from true miner's nystagmus; this disease always was and still is the special disease of the colliery.

**The treatment is simple. The miner must leave the mine, and must not return to it.**

**The prognosis must be guarded. Many cases recover completely, but on the other hand some never entirely lose their symptoms. In any case, no miner who has once suffered from the disease must ever return to work underground.**

## A CASE OF MUSCULAR DYSTROPHY (ERB'S JUVENILE FORM) OCCURRING IN AN ADULT.

By H. L. McKISACK, M.D., M.R.C.P.,
PHYSICIAN TO THE ROYAL VICTORIA HOSPITAL, BELFAST.

**THE premature death of certain selected muscles, which seems to constitute this disease, occurs without regard to the position of the trophic centres of the respective muscles in the cord. In the segments of the spinal cord groups of actions of muscles are represented rather than groups of muscles themselves; for example, elevation with abduction of the arm are accomplished by the trapezius, deltoid, and supraspinatus, these muscles being chiefly innervated from the fifth cervical segment. In the following case the absence of trophic influence of the segmental centres may be observed, only one of the muscles involved in elevation and abduction of the arm being atrophied.**

A "plater" in a ship-building yard, aged 28, had been accustomed to severe muscular exertion, particularly of the arms and back. In spite of careful inquiry, no instance of a similar affection can be discovered among his relatives, past or present. He was a total abstainer, and had had no serious previous illnesses except a suppurating inguinal gland, which he attributed to an injury; he denied having had any venereal disease.

About two years before admission he noticed some weakness of his arms, and soon afterwards observed that his neck seemed smaller than before. These defects steadily progressed until his condition on admission to hospital on October 13th, 1909, had become as follows:

The mental faculties and the sensory apparatus are unchanged; the pupil reflexes are normal; the left knee-jerk is brisk, while the right is defective, and the wrist-jerks are absent; the fundus oculi is normal; the blood shows a positive Wassermann reaction. In the muscles of the arms and shoulders atrophy and weakness are to be found. I have drawn up a list of the muscles affected in tabular form, showing the segments of the cord from which the nerves supplying the diseased muscles spring, and have included for comparison sake some unaffected muscles connected with the same segments.

| Segment of Spinal Cord. | Muscles. | Condition. |
|---|---|---|
| Cervical 2 to 5... | Trapezius... ... ... ... ... | Atrophied (except right upper fibres). |
| ,, 4 and 5 | Rhomboids ... ... ... ... | Atrophied. |
| ,, 5 and 6 | Deltoid, supraspinatus, and infraspinatus | Normal (possibly hypertrophied). |
| ,, 5 to 7... | Serratus magnus and biceps ... | Atrophied. |
| ,, ,, ,, ... | Pectoralis major (clavicular portion) | Normal. |
| ,, 7 ... | Latissimus dorsi ... ... ... | Atrophied. |
| ,, 4 to 8... | Triceps and supinator longus ... | Atrophied. |
| ,, ,, ,, ... | Other forearm and hand muscles supplied by musculo-spiral and median nerves | Normal. |
| ,, 8 ) ... Dorsal 1 ) | Forearm and hand muscles supplied by ulnar nerve | Normal. |
| Cervical 8 ) ... Dorsal 1 ) | Pectoralis major (sternal portion) | Atrophied. |

The condition of the muscles above mentioned exists on both sides of the body, except in the case of the trapezius.

There are no fibrillary twitchings. The condition of the muscles has been verified by Dr. J. C. Rankin, who finds

merely diminished electrical response in the affected muscles, but no reaction of degeneration.

The atrophy of the latissimus dorsi, lower part of the pectoralis major, and supinator longus, with escape of the

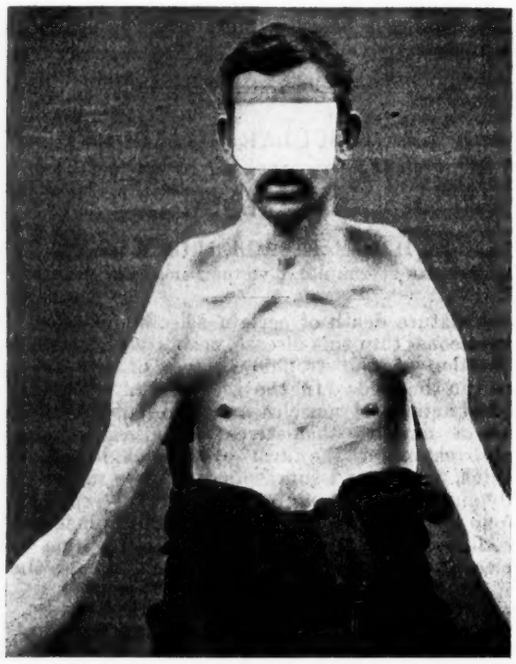

Fig. 1.—Showing the apparent lengthening of arms by elevation of scapulae and atrophy of trapezius, especially on left side, as indicated by sharp angle between neck and shoulder.

deltoid, infraspinatus, and hand muscles, form a characteristic picture of the juvenile type of muscular dystrophy; the muscles of the legs, pelvic girdle, and lower back are so far intact. Landouzy and Déjerine's type may be excluded by the complete absence of face lesion. The

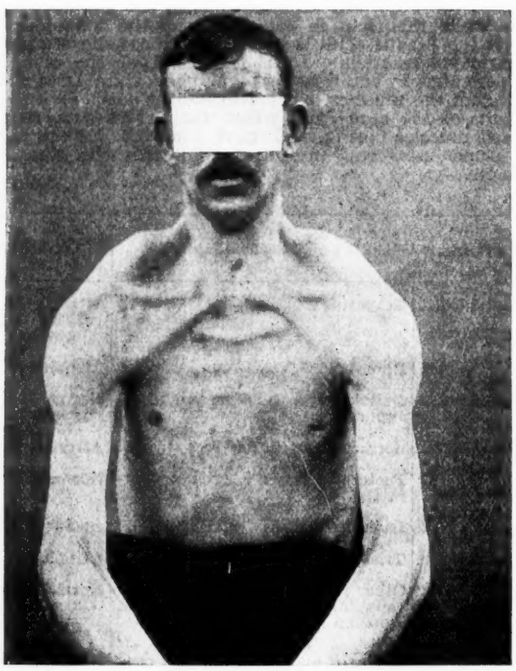

Fig. 2.—The patient presses his hands together, showing the atrophy of the sternal fibres of pectoralis major.

deltoids and infraspinati may possibly be regarded as hypertrophied, but this is probably a genuine hypertrophy from overwork rather than the degenerative false enlargement, so that the group of pseudo-hypertrophic paralysis may also be rejected. Absence of fibrillary contractions and of characteristic electrical changes, together with the distribution of atrophy, remove this case from the group of spinal muscular atrophies. In spite, therefore, of the comparatively advanced age (26 years) at which the disease commenced, and of the absence of hereditary influence

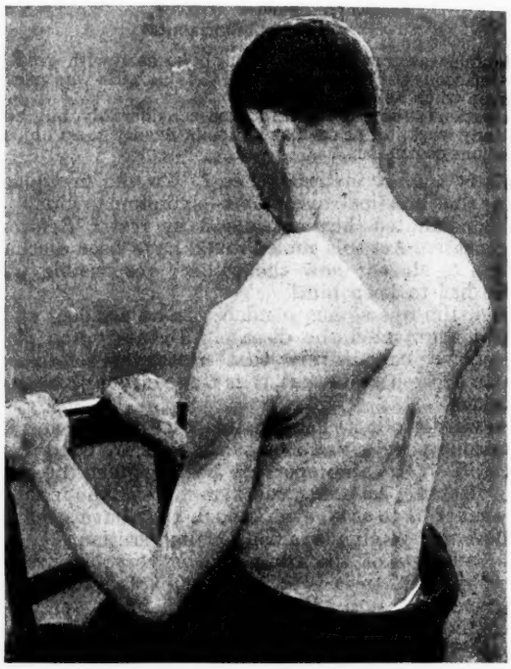

Fig. 3.—Demonstrates atrophy of the serratus magnus.

this case may be regarded as an instance of Erb's juvenile form of muscular dystrophy.

The premature decay of certain muscles in cases of this description may possibly bear some relation to the amount of work the muscles have had to perform. In this instance the atrophied muscles have had an excessive amount of exercise during the adolescent and adult life of the man. The fact that no other occurrence of the disease can be discovered among his relatives may indicate a comparatively slight degree of vulnerability, hence the late period of onset of the disease, which usually commences in boyhood or adolescence.

## THE ACTION OF CUTANEOUS ANAESTHETICS.

BY

A. RENDLE SHORT, M.D., B.S., B.Sc., F.R.C.S.,

DEMONSTRATOR OF PHYSIOLOGY IN THE UNIVERSITY OF BRISTOL, SURGICAL REGISTRAR TO THE BRISTOL ROYAL INFIRMARY.

AND

WALTER SALISBURY.

In this investigation we have endeavoured to determine whether the various drugs applied to the unbroken skin with a view to the relief of pain have the action attributed to them, and thus to obtain rational indications for their use. We have not concerned ourselves with the administration of local anaesthetics by the hypodermic method, but only with liniments, lotions, ointments, and other means of introducing drugs by absorption through the skin itself.

The following preparations for this purpose are contained in the *British Pharmacopoeia*:

| | |
|---|---|
| Linimentum belladonnae | Linimentum opii |
| Emplastrum belladonnae | Emplastrum opii |
| Unguentum belladonnae | Linimentum aconiti |
| Unguentum atropinae | Unguentum aconitinae |
| Unguentum gallae cum opio | Unguentum cocainae |

We have no hesitation in saying that none of these have any anaesthetic effect on the unbroken skin. Belladonna liniments and plasters have been ordered for generations, and glycerine of belladonna finds a place in the casualty room of most hospitals, but when tested by accurate methods they are quite unable to prevent or relieve pain except in so far as that effect may be produced

by the support of any plaster, or the counter-irritation and massage obtained by the use of any simple liniment. Further, we claim that the time-honoured custom of giving opium or belladonna suppositories after operations on the rectum is founded upon a misconception. Any effect they may have is due to the general action of the drug, not to its influence on nerve-endings in the bowel. It could with greater precision be given hypodermically or by the mouth.

There is no drug in common use capable of acting as an anaesthetic on the unbroken skin, except the ethyl-chloride spray, which freezes it. In the treatment of sprains, bruises, and neuralgia we must trust to other methods, such as counter-irritation, massage, and analgesics given hypodermically or by the mouth if necessary.

### METHODS OF INVESTIGATION.

We studied the effects of the drugs under consideration both on the skin and on a mucous membrane. For the former purpose we generally used a finger, freely and vigorously applying the substance to the back and front as far as the middle phalangeal joint. For the latter purpose we generally applied the substance in question to the tongue, rubbing it in thoroughly for several minutes. All experiments, except when otherwise stated, were independently confirmed by each of us.

We always tried the effect of a drug twice, once three minutes after application and again after the lapse of a quarter of an hour. In some cases we tried again after one hour. The tests used were as follows:

### SKIN.

#### *The Pain Sense.*

It is not easy to devise a quantitative test, suitable for detecting small differences in the pain sense. It is important that any such test should be as physiological as possible. The method of electrical stimulation which we used is possibly open to criticism in this direction. We used three tests of the pain sense.

(*a*) *The Intolerable Temperature Test.*—We have found that for each observer there was a certain constant temperature of hot water in which it was too painful to hold the finger for half a minute. For one of us (W. S.) this critical temperature was 55° C., 54° being tolerable. The constancy of this temperature was verified before each experiment. The finger was moved gently about in the hot water, being immersed up to the middle phalangeal joint. After the drug had been rubbed in thoroughly, the intolerable temperature was again determined. Though constant for the individual, the intolerable temperature varies widely in different persons. In the other observer (A. R. S.) it was 51°.

(*b*) *The Faradic Pain Test.*—The point was determined, before and after the application of each drug, at which the damp finger first found electrical stimulation, by means of electrodes led off from a faradic coil, actually painful. In this case we utilized the "threshold" of the pain sense. If care was taken that the battery did not run for more than a few minutes at a time and that exactly identical points on the back of the finger were tested, quite constant results were obtained after a little practice by both of us. The strength of the stimulus was increased by pushing up the secondary coil, and the distance at which the sensation of pain first appeared, after repeated verification, was read off on the scale.

(*c*) *Pin-prick Test.*—This, of course, was not a quantitative method, and was merely employed in a general way to verify the accuracy of the two methods just described.

#### *Thermal Discrimination Test.*

We found that we were able, by immersing the finger first in one beaker of warm water and then in another, to detect a difference in temperature of not less than 1° C. We worked with temperatures of 29° and 30°, prepared by the other experimenter not in the sight of the one tested. It was determined in each case whether the finger was as sensitive after applying the drug in question to it.

#### *Tactile Sense.*

This was tested in a general way by stroking the finger with a wool pencil, and also by measurements with the aesthesiometer before and after applying drugs to the fingers, elbow, tongue, and forehead.

### TONGUE.

Further, we tested the effects of drugs on the tongue. It is evident that if they have no effect on a mucous membrane it is futile to expect them to act on the unbroken skin.

In some cases a characteristic sensation was produced on the tongue. This was especially true in the case of menthol, the action of which we investigated in some detail.

(*a*) *Taste.*—This was tested in the ordinary way by applying drops of sweet, acid, saline and bitter fluids to the extended tongue after rubbing in drugs.

(*b*) *Faradic Pain Sense.*—This was determined in the same way as in dealing with the finger, with equally constant results.

(*c*) *Thermal Discrimination.*—This was tested by applying two warm metal points taken out of warm water at two different temperatures. We found that the normal tongue could distinguish a difference in the temperature of the water of not less than 3° (38°–41°).

(*d*) *Aesthesiometer Test.*—As on finger.

### DRUGS TESTED.

The following drugs were put through most or all o the foregoing tests.

*Belladonna and Atropine.*—We first tried a long and vigorous application of the linimentum and unguentum (*British Pharmacopoeia*). Neither had any effect in altering the sensibility of the skin. Thinking that possibly the solutions were too dilute, we rubbed in a 10 per cent. solution of atropine in absolute alcohol, but it had no effect. The application of a 2 per cent. solution to the tongue produced, indeed, a dryness of the throat, but did not in the least alter the sense of taste or of pain. It is surprising that belladonna should still have such a reputation as a local analgesic. It is well known that it paralyses the terminals of sympathetic and autonomic nerves, but there has never been any evidence that it could affect sensory nerve terminals. It may be objected that although its application does not yield any quantitative evidence of relief from pain, yet that in conditions of tension from bruising or thrombosis, in which it is so extensively used, preparations of belladonna may nevertheless be of service. For instance, it might conceivably act upon the arteries, but it is very doubtful if it ever reaches these. Cocaine is a reliable anaesthetic for the tongue or eye, yet cocaine ointment has no effect on the healthy skin, because the alkaloid is not absorbed. We do not deny that belladonna liniment can obtain sufficient entrance, by means of the sweat ducts, to reduce, though not to abolish, sweating over the area to which it is applied. It will be remembered that atropine has no anaesthetic power over the eye when drops are applied, although it is undoubtedly absorbed. We cannot find that the inunction of atropine produces local vaso-dilatation.

*Aconite.*—Here again we found that neither the liniment nor the ointment of the *British Pharmacopoeia* had any effect on the unbroken skin. Even a 3 per cent. solution of aconitine in absolute alcohol—a concentration far too dangerous for general use—was quite without result. The effects of a 0.5 per cent. solution on the tongue were more interesting, but scarcely more valuable. A very peculiar and characteristic sensation of tingling was produced, lasting for so long a time as five hours. (It was this tingling which furnished an important clue to the nature of the poison used in the famous Lamson case.) Taste was rendered a little uncertain, but the answers were, on the whole, correct. We had considerable difficulty in deciding whether there was any analgesia shown by the "faradic pain test" on the tongue. On six occasions (in four observers) a stronger current was necessary to produce the "threshold" pain sense (usually about 5 mm. nearer the primary coil). On four occasions no change could be found after applying aconitine. Probably there is some slight numbing of the pain sense.

*Opium.*—Although lotio plumbi cum opio is still used every day, and laudanum is dropped into aching ears, and morphine suppositories are given for piles, it is becoming increasingly well known that opium is not a local anaesthetic. In our experimtnts a 5 per cent. solution of morphine tartrate in water had no effect on the tongue, where it is absorbed. No tingling was produced, and taste was not affected. Therefore, presumably, a preparation

of morphine tartrate suitable for the skin would also be without effect.

*Chloroform.*—This had no anaesthetic effect on the skin, nor had aqua chloroformi on the tongue.

*Carbolic acid* has had a reputation as a local anaesthetic, and certainly it makes the fingers feel numb after long soaking in a lotion of 1 in 20; also it is well known that it relieves the pain of aching teeth and raw surfaces, probably by killing irritated nerve endings. We found, however, that so far from allowing of more painful stimuli to the fingers, it induced a real hyperaesthesia. The intolerable temperature fell 3° in one case, and the faradic stimulus became painful at a greater distance from the primary coil. These effects were evidently due to the destruction of a superficial layer of protecting epithelium, which a few days later flakes off.

*Cocaine.*—The anaesthetic effect of this alkaloid on nerve endings is unquestioned, and furnished a useful criterion of the validity of our methods. A 10 per cent. solution applied to the tongue produced a feeling of pressure and numbness; taste was abolished; the faradic pain sense was considerably diminished ("threshold" pain at 7.2 cm. instead of 8.2 cm.), the compass points were judged to be single at 4 mm. instead of 1 mm., and the thermal discrimination was much less exact. Stroking with a wool pencil could still, however, be felt. Nevertheless, neither a 10 per cent. solution of the hydrochloride in absolute alcohol, nor a 10 per cent. ointment of the alkaloid itself in lanoline, reputedly the best medium for absorption, had any effect on the unbroken skin. On damaged skin or mucous membranes there can be no doubt of the efficacy of cocaine ointment. For instance, it will at once relieve the pain of a severe nitric acid burn.

*Menthol.*—The effects of the application of this drug are very interesting, and must receive a more detailed description. We cannot, however, find in it a reliable local anaesthetic. As a rubefacient and counter-irritant it might relieve pain, just as alcohol would, but it does not paralyse the nerve endings. Rubbed into the skin in saturated alcoholic solution it had no power to alter the thermic, tactile, or pain senses. Rubbing it into the tongue abolished taste, but the faradic pain test was not altered, nor were the thermic and tactile senses.

It is well known that menthol, like oil of peppermint, gives rise to a remarkable sensation of coldness when applied to the skin or mouth. We found that there were certain other characteristic phenomena, which it now remains to describe. The effect differs considerably in various regions of the body, and theoretical conclusions of an important character may probably be drawn from some of the results obtained.

On the skin, the cold effect is exceedingly well marked on the forehead, and becomes apparent without the application of any stimulus, but is perhaps best marked when the spot is touched with cold fingers, which feel much colder than they do elsewhere. (Thermal discrimination by the finger is, however, not altered by applying menthol to it.) The spot is converted into a "cold spot" for the time being. Pressing on hot objects produces no unusual effect. On the abdomen the effect is less marked; the cold sensation is not very apparent unless a feeling of cold is excited in the neighbourhood by fanning. On the thigh and forearm the effect is again less, but is at once made evident by fanning. On the nipple no thermic sensation is produced, but only a feeling loosely described as "burning," quite distinct from either the heat or the pain sense. On the glans penis it first produces the usual cold sense, which rapidly becomes painful; the pain is not increased by pressure, but is made worse by cold, and immediately stopped by warmth. Both the cold and the pain sense persist some time.

On the tongue the cold sensation is but little marked; it is quite perceptible on opening the mouth and inspiring. On the pharynx, however, the cold sensation during such inspiration is exceedingly evident. A remarkable phenomenon is that pressure by any blunt object on the tongue, after rubbing in a solution of menthol in spirit, becomes exceedingly painful, without any excitation of the temperature sense. On the lower lip a very marked cold sensation is produced, and there is also pain on pressure. Sipping either hot or cold water enhances the after-effect of cold on the lip.

We judge that menthol, by its chemical action on the nerve endings specially devoted to the sense of cold, produces that sensation. According to Weber's theory, the sensation of cold is due to the contraction of a sheath or end-bulb having a higher coefficient of expansion upon a nerve core having a lower coefficient of expansion, thus producing a stimulus by pressure. An artificial model might be made by enclosing a thread of glass in a sheath or bulb of copper. The application of cold would cause pressure on the glass. If the pressure on the nerve core were mild, it would be interpreted as cold; if severe, it would become painful. Assuming for the moment that menthol has the power of combining chemically with the nerve endings of cold so as to stimulate them, it might do this in two ways:

(1) By inducing a contraction of the sheath of the end bulb, thus pressing gently on the nerve core; or

(2) By chemically linking itself on to the protoplasm of the nerve core in such a way as directly to irritate or stimulate it.

Pressure, by further squeezing an already contracted sheath, as in (1), or by pressing on a hypersensitive core, as in (2), would naturally still further stimulate the nerve ending, and so set up a pain sense, as in the tongue and lips. If the conducting epithelium were sufficiently thin, cold would also induce a painful sensation, but warmth would relieve it, as in the case of the glans.

We made some investigation with a skin thermometer to find whether the surface temperature of the skin was reduced by the application of menthol. The bulb of the instrument consists of a flat spiral coil of mercury, enclosed in a glass bell, and provided with a vertical index. Some idea of its delicacy may be given by mentioning that in a patient with acute eczema the skin temperature over an inflamed patch proved to be 0.4° C. higher than over normal skin. In one typical experiment (W. S.) the skin temperature before rubbing on menthol was 32.3° C.; afterwards it was 31.6° C. There is, then, a considerable fall. This cannot, however, be ascribed entirely to the influence of the menthol, because if alcohol is rubbed on one patch of skin, and menthol dissolved in alcohol on another, the reduction of temperature is the same. Menthol in olive oil, however, reduces the skin temperature more than does olive oil by itself, so that we must take it that menthol does share with these other substances the power of cooling the skin. Thus in another experiment (A. R. S.) the normal skin temperature was 33.4° C., but after the application of olive oil and menthol it was 32.1° C.

TABLE I.—*Showing Results of Experiments on the Finger.*

| | Pin-prick. | Intolerable Temperature. | Faradic Pain. | Aesthesiometer. | Wool Pencil. | Thermal Discrimination. |
|---|---|---|---|---|---|---|
| 1. *Belladonna.* | | | | | | |
| (*a*) Lin. bellad. *B.P.* ... | 0 | *Reduced 1° | 0 | — | — | 0 |
| (*b*) Atropine 10 per cent. in absolute alcohol | 0 | 0 | 0 | — | — | 0 |
| (*c*) Ung. bellad. *B.P.* ... | 0 | 0 | 0 | 0 | 0 | 0 |
| 2. *Aconite.* | | | | | | |
| (*a*) Lin. aconit. *B.P.* ... | 0 | *Reduced 1° | 0 | — | — | 0 |
| (*b*) Aconitine 3 per cent. in absolute alcohol | 0 | 0 | 0 | — | 0 | 0 |
| (*c*) Ung. aconitin. *B.P.* | 0 | 0 | 0 | 0 | 0 | 0 |
| 3. *Menthol.* | | | | | | |
| Sat. sol. in spirit ... | 0 | 0 | 0 | 0 | 0 | 0 |
| 4. *Opium.* | | | | | | |
| Morphin. tart. 5 per cent. aqueous | 0 | 0 | 0 | 0 | 0 | 0 |
| 5. *Cocaine.* (Cocaine hydrochloride) | | | | | | |
| 10 per cent. in absolute alcohol | 0 | 0 | 0 | 0 | 0 | 0 |
| 10 per cent. cocaine in lanoline | 0 | 0 | 0 | 0 | 0 | 0 |
| 6. Chloroform ... ... | — | 0 | 0 | — | — | — |
| 7. Carbolic acid 1 in 20 ... | — | Reduced 3 (A.R.S.) 0 (W.S.) | Hyperaesthesia | 0 | — | 0 |

0 = No effect. * Produces hyperaesthesia.

TABLE II.—*Showing Results of Experiments on the Tongue.*

| | Psychical. | Taste. | Faradic Pain. | Aesthesiometer. | Thermal Discrimination. |
|---|---|---|---|---|---|
| 1. Atropine 2 per cent. in absolute alcohol | 0 (throat dry) | 0 | 0 | – | — |
| 2. Aconitine 0.5 per cent. in absolute alcohol | tingling 3-5 hours | 0 | doubtful, q.v. | — | 0 |
| 3. Menthol, saturated solution in spirit | q.v. | abolish'd | 0 | 0 | 0 |
| 4. Morphine tartrate, 5 per cent. aqueous | 0 | 0 | 0 | 0 | 0 |
| 5. Cocaine hydrochloride. 10 per cent. in absolute alcohol | numb | abolish'd | some anaesthesia (8.2-7.2) | some anaesthesia | reduced. |
| 6. Aq. chloroformi, *B.P.* | sweet | — | 0 | 0 | — |

0 = No effect.

SUMMARY.

Apart from the theoretical conclusions mentioned in speaking of the effects of menthol, we believe that we have been able to obtain definite evidence that none of the drugs at present in use for painting on or rubbing into the skin have any power to relieve pain. The use of belladonna, opium, aconite, menthol, and cocaine for bruises, thrombosis, inflammation, or neuralgia should therefore be discontinued and replaced by more efficacious means, such as rest, massage, and counter-irritation.

The accompanying tables give details of the results of each experiment, repeatedly confirmed by each of two observers. For explanation of terms see the section on above methods.

## INFANTILE GLAUCOMA OR BUPHTHALMIA.

BY

WILFRID ALLPORT, M.B., B.S.LOND., F.R.C.S.E.,

HONORARY OPHTHALMIC SURGEON TO THE QUEEN'S HOSPITAL, BIRMINGHAM, AND TO THE WARNEFORD HOSPITAL, LEAMINGTON.

THERE is nothing more painful to a medical man than to be called upon to treat a disease which is considered to be incurable, and which he knows from experience will steadily progress, with dire results to the patient. Such a condition is buphthalmia, the ox-eye of childhood. It is of sufficiently frequent occurrence to ensure the interest of the profession in any means which may alleviate its disastrous course. I have been tempted, on this account, to record a case which has been under my care for nearly two years, and which presents an unusually satisfactory result.

The clinical picture of the disease is sufficiently well known, but a recapitulation of its symptoms may not be out of place. The onset dates from birth, or even before; both eyes are, as a rule, affected, the first signs generally noticed being the reluctance of the child to face the light, and the presence of a certain amount of lacrymation. Soon the eyes become enlarged and prominent, the corneae are increased in size, and the vision obviously impaired. The disease progresses slowly but surely, and ultimately the child's condition is truly pitiful. The eyeballs bulge hideously, the sight is completely destroyed, and frequently one or both eyes have to be excised owing to corneal ulceration and its attendant pain. The symptoms are entirely due to a persistently high intraocular tension, and there is no doubt that the complaint is an infantile form of glaucoma similar in nearly all respects to that occurring in the adult. It differs in its pathology and in the fact that, the coats of the child's eye being distensible, they give way readily under the increased tension, and consequently the effects of that pressure on the retina and optic nerve do not appear so quickly as in the adult eye with its inelastic sclera.

The eye commences to give way at the junction of the cornea and sclera, the so-called intercalary region, which is one of the weak parts of the envelope. The consequence is that the cornea is flattened and stretched, and also thinned, especially at its periphery. Opacities frequently occur in it as a result of malnutrition. The sclera generally becomes distended, but, according to many observers, shows no thinning. The eyeball is elongated and oval in shape, and is consequently prominent. The anterior chamber is deeper than normal, and the iris may become atrophic and tremulous, owing to lack of proper support by the lens. The latter is, as a rule, smaller than normal (Fuchs), and is displaced backwards, owing to the stretching of the suspensory ligament. The lens remains transparent for a considerable period, but ultimately opacities make their appearance in its substance as a result of failing nutrition. The pupil is larger than normal, and does not readily react to light. The media are clear, and the retina and choroid show no visible signs of degeneration until the later stages. The acuity of vision gradually deteriorates, the field of vision being contracted in a manner similar to the contraction in adult glaucoma. The optic disc eventually presents marked cupping, and the optic nerve undergoes gradual atrophy, until complete blindness results.

Although the eye is so considerably elongated, it is rare to find it highly myopic; this is due to the flattening of the cornea and the backward displacement of the lens. Astigmatism, however, is frequently present.

The pathology of the condition is of great interest. Leber proved experimentally that defective filtration of the intraocular fluid was the cause of the trouble, showing that in a buphthalmic eye the rate of excretion was considerably below normal. Treacher Collins held the view that the base of the iris was imperfectly separated from the periphery of the cornea, owing to arrested development, so causing blockage to the exit of fluid from the filtration angle into the canal of Schlemm. Later, he pointed out that in the embryo the ligamentum pectinatum iridis is in two layers as in animals; the one layer, being in apposition to the sclera, forms the inner wall of Schlemm's canal; the other layer, the inner, is loose and sponge-like. The latter persists until the sixth month of fetal life, after which it should normally disappear. The abnormal persistence of this prenatal condition of the inner layer is in his opinion the cause of buphthalmia. In support of this theory strands of tissue have been found stretching between the base of the iris and the cornea. The canal of Schlemm is frequently partially or completely obliterated. In the opinion of other authorities the disease is due to intrauterine inflammatory changes at the filtration angle.

Four years ago Freda C., aged 6 months, was brought to see me, suffering from undoubted buphthalmia. The mother had noticed that both eyes had gradually become abnormally large, and that the child cried when made to face the light. Both eyes were constantly "running water." The corneae were large, the globes slightly prominent, and the intraocular tension decidedly high. It was impossible to examine the fundi owing to the intense photophobia.

At that time I considered it to be impossible to cure the condition, and for want of anything better pilocarpine drops were ordered. I had in several previous cases performed iridectomy without the slightest improvement, and had abandoned the method as illogical and dangerous.

Soon after consulting me the parents of the child went to live in a distant part of the country, and I did not see her again for two and a half years, when they returned to the Midlands and brought her to see me once more.

A short time previous to this visit, by the kindness of Mr. Priestley Smith, I had examined a buphthalmic patient of his, upon whom a distinguished Continental ophthalmologist had previously operated. His method of treatment was by a series of punctures of the intercalary region of the sclera, resulting in a considerable improvement in the patient's condition.

When in March, 1908, my patient was brought to see me again, I decided to try a modification of this method. At that time the child was 3 years old, and had marked buphthalmos. The corneae were considerably enlarged, and showed extensive nebulous opacities. The tension was high, photophobia was present, and the sight seriously impaired.

In April I performed anterior sclerotomy on the right eye. A Graefe knife was used, with which a puncture was made about 1.5 mm. from the corneal margin on one side, through the sclera. The knife was carried across the anterior chamber, and the point emerged through the sclera on the other side at a similar distance from the corneal margin. Then by a few sawing movements the intercalary region was incised on both sides of the cornea, leaving, however, a bridge of sclera intact at the upper part. Unfortunately these incisions healed very rapidly and firmly, and the tension soon became as high as ever.

This operation having proved unsuccessful I decided to alter the procedure, and in the following June the left eye was operated upon. As in the other eye, an anterior sclerotomy was performed, but the incision was extended so as to cut entirely through the upper part of the intercalary region. The knife as it emerged through the sclera above the cornea was not allowed to cut through the conjunctiva, but this membrane was undermined for a few millimetres, producing a bridge of tissue which held the flap-like portion of the cornea in position.

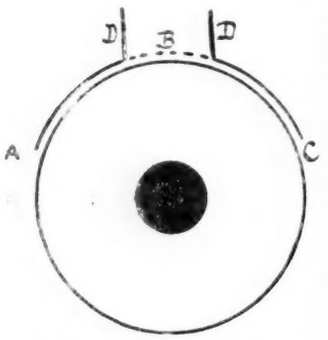


Fig. 1.—Diagram showing extent of incision. A, B, C, Incision through sclera; B, point at which cystoid cicatrix developed; D, D, bridge of conjunctival tissue.

The idea of this operation was to obtain a scar at the filtration angle, which would be sufficiently loose and porous to allow the intraocular fluid to escape through it under the conjunctiva, and so produce a permanent drain. The result more than fulfilled my expectations; a small cystoid cicatrix developed at the upper point of the incision, and a minute fistulous opening in the sclera at this point could be detected. The tension soon became normal, and the symptoms gradually abated.

In September, 1908, a similar operation was performed on the right eye, with an equally satisfactory result, and in December of that year the intraocular tension of both eyes was normal, the photophobia had completely disappeared, and the child could see very much better. She could readily perceive a pin lying on the floor some yards away, and had accurate colour perception. The fields of vision were not markedly contracted.

Fig. 2.—Photograph of Freda C. at the present time.

In January, 1909, tension was still normal in both eyes; there was no injection, and the small cystoid cicatrices caused no irritation or discomfort. The corneal nebulae had nearly disappeared, and the eyes were much less prominent. The fields of vision, as far as they could be investigated, showed no contraction. The optic discs were a little pale, but were not cupped, and the vision was rapidly improving.

Since that time I have seen her periodically, and the improvement has been maintained. In November, 1909, the tension was normal on both sides, and the sight was very good. A small astigmatic error was discovered, corrected by a — 2 D. cylinder 15° from the horizontal in each eye, and with these correcting glasses she could read easily Jaeger 5 at about 6 in. Objects about the room could be distinguished with clearness and precision.

The child presents now an almost normal appearance, the eyes merely resembling the slightly prominent globes of a myope. She is bright, happy, and intelligent, and no longer complains of any eye symptoms.

**This result, considering the usually hopeless nature of the disease, warrants me, I think, in recording the case, and will, I trust, lead to the relief of many future cases by a similar operative procedure.**

## NOTES ON A CASE OF CYCLOPHORIA.

BY

A. ALISON BRADBURNE, F.R.C.S.EDIN.,

SOUTHPORT AND MANCHESTER.

CYCLOPHORIA is the condition which is associated with an abnormal rotation of the eyes. It is therefore a subject which belongs essentially to the sphere of the ophthalmic surgeon, but my reason for drawing attention to it is that it can, when untreated, lead to a state of matters which becomes really serious for the patients and most unsatisfactory for those whose duty it is to treat them. The reason for this is twofold—the absence of signs or symptoms to direct the attention of the examiner or the patient to the true seat of the cause; and also the considerable degree of ignorance which seems to exist, even in the majority of textbooks, concerning even the very existence of such a condition. Further it is important to recognize that it can be brought about by error in the ordering of glasses, and its existence should therefore be borne in mind by those who are in the habit of prescribing glasses.

The following is the statement which a patient I saw last August—a cashier aged 48—wrote concerning himself (names omitted):

In 1894 I consulted Dr. — about my eyes; for a time the glasses were satisfactory, but by the year 1900 I had been to see three eye specialists, and the glasses they prescribed gave little ease or satisfaction for long. Between 1900 and 1907 I consulted an optician two or three times whose modification gave some satisfaction. Trouble then ensued again, and the optician could give me no relief. In the spring of 1907 I first experienced sensation of collapse or unconsciousness after walking two or three hundred yards in the noisy streets of Manchester, after *working at figures and correspondence*, and after railway travelling. In 1907 I again consulted an ophthalmic surgeon, who said: "That there was no trace of disease; that the unpleasant symptoms resulted from overwork; that the glasses last made by the optician were right; that if I persistedly overworked my eyes some form of epilepsy would certainly result." I then consulted my local doctor, who advised me to give up my occupation. I next consulted a heart specialist, who told me that my heart was not responsible for the trouble; that my general condition was very good; that he was certain that my trouble came from my eyes, and urged an effort to find correct glasses. In 1908 I consulted another optician, who tried various lenses, but my condition varied, and tended to become worse. In the same year I consulted a nerve specialist, who said I was simply run down through overwork; that the eye condition was secondary, and that I must take a cruise in the Mediterranean, and if I did he would guarantee a cure. I did this at great expense, but only to find a return of all my symptoms within a few weeks of my return. I then consulted a hydropathic physician, who said that I was suffering from optic neuritis with gouty complications. Tried hydropathic and electric treatment for one month with little benefit. Finally, I consulted another doctor, who sent me to see you.

I experienced at times a dull, aching, intermittent pain about the eyeballs and eyebrows, always finishing in the right eye, leaving a sensation of numbness, always aggravated by near work, followed sometimes by a feeling as if I were going to collapse and become unconscious. It is unaccompanied by noises in the head, though noises aggravate it. Am sometimes left slightly deaf for a time. I never see double, and external objects do not revolve.

Questioned further, he said that after any lengthened period of application to near work he had noticed on getting up from his desk that the ground seemed to slope up towards him. His general medical history was good. His father was alive and his mother lived till 70. He had no brothers or sisters. He was a widower with two healthy children. He was almost a total abstainer as regard tobacco and alcohol. Except for his nerve troubles he enjoyed very good health.

Here, then, was a person who was evidently suffering from a condition which had been more or less present for fifteen years. If we carefully consider the history we see that the intensity of the symptoms has increased much more rapidly since he reached the presbyopic age; this points to a definite relationship to his near work. Again, we notice that his symptoms were always aggravated by near work and that relief followed cessation from such work.

These points taken together with the slowness of onset and the temporary relief only obtained by the various glasses tried, justify the conclusion that the cause must be of a trifling but persistent nature. Persistent because of its effects, and trifling because of its escaped detection.

I found that he was wearing one pair of glasses for near and far work. In front of the right eye he had a simple convex glass, but in the left was a strong convex cylinder placed at an angle of 25 degrees from the vertical. I assumed at once that his trouble arose from the position of this cylinder. If one of these cylinders be held about a foot or two in front of the eyes, and looked through it at, say, the bars of a window, and it then be rotated slowly it will be noticed that the bars seen through the glass become rotated out of alignment with those seen outside the glass. As this is what occurs when the cylinder is rotated, it is easy to see what happens when the eyes rotate and the cylinder is fixed. It is well known that the eyes turn *in* when a near object is looked at, such as a book, as in the act of reading, but at the same time they rotate on a fore and aft axis in such a manner that their vertical meridians become tilted out at their upper ends. This movement is exactly like that which occurs when the steering wheel of a ship is turned.

In the case under consideration I found that he was wearing a cylinder the axis of which was placed leaning 25 degrees from the vertical; this position made all vertical meridians correct when his eyes were directed straight ahead, when in fact no torsion of his visual axes was present. It is plain, then, from what has been said about the rotation which occurs when the eyes are turned in, that this position of the cylinder could not be the correct one when he was looking down and in, for rotation will have taken place behind the lens. This it was quite simple to prove. A plain sheet of paper was placed at the usual reading distance from his eyes; with his distant glasses on a double prism was put in front of his right eye. On the card was a single straight line, to which he directed his attention. He then saw three lines; the upper and lower belonged to his right eye, the centre to his left. If, then any rotation of his eye were present, it was plain that this central line would not be parallel with the other two. As I expected, he stated that this middle line sloped away down to the right. By simply moving the position of the cylinder 10 degrees nearer the horizontal, this line became at once parallel. However, on once more testing, with the cylinder in this new position, with the eyes directed straight ahead, he stated that his vertical meridians were out of truth. Their restoration was effected by putting the lens back to its original position.

It was evident, then, that he needed two pairs of glasses, one for distant use with the cylinder at its old situation and another with it at ten degrees nearer the horizontal for reading and close work. After using these for three weeks he wrote to say that there was already some improvement.

Here, then, was a cause which answered to the hypothesis that the error was trifling, yet constantly and easily overlooked. We have only, then, to explain briefly what caused it to give rise to such symptoms.

It was evident that his glasses for distant use were perfectly correct, but when he came to read with them the rotation of the eyes which then took place would lead to a want of parallelism of the lines of his book. These lines would, in fact, tend to cross when the images were fused, but as the brain will not tolerate double images it would make every effort to correct this want of alignment. This is overcome by a special effort on the part of the oblique muscles of the eyes, whose function it is to rotate the eyes.

Now, this torsional action of the obliques is directed and graduated by the will, and though this effort of the will may be easy and rapid it is none the less an independent action.

This characteristic feature explains how it was that this cause could persist so long before it produced any symptoms. At first the extra exertion would entail little strain on the nervous output of energy, but as time went on, and he approached the age when reading naturally became more difficult, its effects on the general nervous system would become more pronounced.

The phenomenon of the sloping of the ground, which was noticed after near work, is explained by the cramped position into which the oblique muscles had brought the eyes, causing them to become fixed in a position which made them incorrect for the gaze when directed straight ahead. This would also explain the trouble he experienced as he walked home through the "noisy streets of Manchester," as the lines of the buildings, etc., would all be out and his nerves in a highly sensitive condition to any external irritants.

This case is an example of the endless troubles to which such a condition can put both the patient and his medical advisers when it remains untreated and unrecognized.

Patient writes December 28th, 1909: "There can be no doubt that an improvement in my condition has taken place during the last few months . . . but though feeling my physical limitations I can safely say my condition is better than it was."

THE second International Congress on Cancer Research will be held this year in Paris from October 1st to 5th. The President is His Excellency Professor von Czerny; the General Secretary, Dr. G. Meyer. The office to which all communications should be addressed is at 13, Bendlerstrasse, Berlin, W.

# ON A TRIAL OF NASTIN.

BY J. ASHBURTON THOMPSON, M.D., D.P.H.,
PERMANENT HEAD, DEPARTMENT OF PUBLIC HEALTH, NEW SOUTH WALES.

THE treatment of leprosy is still the opprobrium of therapeutics, and promise of improvement in it has so much importance that the following account of a trial of Professor Deycke's nastin treatment will have interest for many in different parts of the world who have reported on, or who are still conducting, similar trials. It is confined to a summary statement for want of space. Here, for instance, charts of daily temperature extending over a whole year cannot be displayed, but it has been abstracted from my annual official records[1] for the years 1908 and 1909, in which such charts have been published, together with many other details not reproduced here. I would ask the reader to understand, therefore, that the statements made below do not represent general impressions, but result from clinical notes made from week to week. It is the more important to mention this in the case of leprosy, because the character of the disease is tenacity with long duration; even its untreated course is commonly remittent or fluctuating, is frequently interrupted by long terms of quiescence, and, not very rarely, is brought to a close, apparent or real, in a stage which may be accepted as recovery for all practical purposes. These features leprosy has naturally, but when patients are cared for other points have to be borne in mind. It must be generally known, I suppose, that lepers almost invariably improve considerably after having been removed from conditions of poverty, or even of irregular living, to those of a well-ordered hospital, and that often the improvement is not confined to their general state—as shown, for example, by increase of weight—but extends to the visible and tangible stigmata of the disease. Over and above that, I have noticed that the stigmata vary considerably from time to time, independently of all treatment; and, again, that lepers are usually very impressionable, and often benefit remarkably, for a time at least, when interest and hope are excited in them by any new treatment; and, therefore, it is hardly enough for writers to assert that whereas before treatment a patient exhibited such and such signs, these afterwards became favourably modified or disappeared. In order that the mere reader may be placed as far as possible in a position to judge whether the reporter's opinion has been well founded, all the conditions under which the patient lay must be mentioned at the same time.

After having studied Professor Deycke's earlier papers,[2] it seemed to me that his ingenious and interesting observations rested on foundations which were very largely speculative; but, further, that application of the result of his experiments to treatment was a widely different matter. In his opinion, formed after long experience, his clinical results testified that a step towards the scientific treatment of this ancient disease had been taken by him for the first time in its history. On that ground I took nastin into use at the beginning of 1908. My supplies, received from Biebrich, included nastin B 1, nastin B 2, and ketin; they were contained in original packages, and were in good order. The injections were actually administered by the medical superintendent of the hospital to which the lazarets are attached, Dr. R. J. Millard, M.B., D.P.H., who was formerly microbiologist in my department; the syringes were invariably dried by immersion in ether, which was allowed to evaporate before the nastin was drawn into them, and the remains of any partly emptied flask were thrown away. In no case did suppuration occur, but effects were produced at the site of injection—slight pain, which usually passed off in half an hour, with subsequent formation of hard and tender lumps. The latter resembled those caused by Haffkine's plague prophylactic, but were so much more persistent, that at the end of the course each patient had large areas of irregular subcutaneous induration on the outer sides of the arms used; and, in the cases of two patients at least, these areas still persist quite plainly, although a year has elapsed since the last injection was made. Nothing further happened in the third, fourth, and fifth of the cases described below, but in the second there was additionally quite severe pain on three occasions, which persisted for

twelve hours, while on one of those occasions there also occurred a transient oedema of the whole of the upper extremity used; and in the first of them, while prolonged pain was felt about the same number of times, on still two other occasions the injections caused eschars, which separated slowly, and which left indolent ulcers.

From among the patients whom from time to time I had admitted, and who thereafter had continued under my care and weekly observation, I selected the five described below. They were all whites. It will be observed that they were of both sexes, and of ages which varied between 7 years and 70. The duration of their illnesses was between six weeks and sixteen years. Two of them had been newly admitted when the treatment began; the other three had been under my care eleven, five, and four years. Three of them had the disease in its tuberous form. One other was an old case of pure lepra nervorum, but in the midst of a marked remission. The fifth was originally a case of pure lepra nervorum of ten years' standing, but at the beginning of this treatment he was fifteen months advanced in the course of transition to the skin form, and, at the same time, was in about the third week of an exacerbation which was strictly confined to the nerves. Thus the series included three cases of special interest and value in the present connexion: Case I on general grounds—namely, the early stage of the patient's manifest disease, her tender age, the proportionately large doses of nastin she received, the long continuance of the treatment, and the ease and certainty with which accumulation of signs could be watched and distinguished; Cases III and V on grounds furnished by Dr. Deycke's impressive warnings against the exhibition of nastin in nerve leprosy.

It is difficult to ascertain from Professor Deycke's writings what measure of improvement may be reasonably expected from nastin treatment within a certain time, although it must be inferred from them, I believe, that restored sensation and dissipation of tuberosities may be looked for, as a rule, in the course of some months—more or less complete in different cases, and not without a few exceptions in which all response to it will be wanting. But what seems certain from them is this: While normal doses of nastin B 1 sometimes cause immediate reactions, namely, general (or febrile) and local in tuberosities, etc. (or necrotic), the same doses of the same form exhibited every second or third day may be relied upon to produce them. They may even be so violent as to endanger the patient's life. They are especially liable to occur in cases of nerve leprosy, and for that reason nastin B 1 must be exhibited in them with great caution, nastin B 2 not at all. In addition to these evidences of action, Professor Deycke finds that the bacilli become degenerated; he infers this from vacuolated, dotted or moniliform, and granular appearances which supervene. These results have their importance. For if nastin had no immediate effect, but its prolonged, silent exhibition were necessary before abatement of the disease could be looked for, the same doubt would be felt in forming a judgement on its efficacy as in the case of every other remedy for leprosy hitherto advocated, namely, whether the improvement ultimately distinguishable were due to it, or (not being uniformly observed in all cases) were merely attendant on the natural fluctuations of the disease, reinforced by careful general management and attention.

CASE I.—A. R., female, aged 7, came under treatment within six weeks of first appearance of the stigmata of tuberous leprosy; her general health was not disturbed. Her treatment began on January 28th, 1908. After a preliminary injection of 0.5 c.cm. she had nastin B 1, 1 c.cm., every seventh day until June 3rd; from that date she received 1.5 c.cm. every seventh day; from August 23rd she had the same dose every fifth day; from September 25th the same every third day; but almost immediately afterwards it began to be repeated every second day, and was so continued to November 4th, when this medication ceased. On three separate days a single dose of nastin B 2 was substituted for B 1. Thus she had fifty-seven doses in all. There was not at any time any reaction to the injections, either local or general. Her case slowly got worse and worse during the year, in a way which I consider to have been usual.

CASE II.—G. M. S., female, aged 23, married; tuberous form. The first signs had appeared in February, 1903, a few weeks after her confinement with her second child. She was admitted February, 1904. The signs of her disease were from the first marked and prominent, but at no time has her general health been affected; she was and continues to be lively, energetic, and industrious; only towards the end of 1907 did some disturbances of sensation, not recognized by her until pointed out, begin to be observable. Between April 7th and 20th, 1908, she received three injections of 1 c.cm. of nastin B 1 every seventh day, and then ceased. On May 12th she resumed the same quantity at the same interval; on June 17th the dose was increased to 1.5 c.cm.; on August 12th the interval was reduced to five days; on September 12th nastin B 2 was substituted, same dose, same interval; on September 22nd she had nastin B 2, 2 c.cm., and on the 25th returned to nastin B 1, 1.5 c.cm., but repeated every second day, and on December 16th ceased. Thus she had sixty-five doses. Her case remained, and a year after cessation still remains, stationary. Neither local nor any general reaction occurred at any time.

CASE III.—H. W., male, aged 68, pure lepra nervorum. He set the first signs which could be ascribed to leprosy at 1892; admitted 1897. At the end of 1900 his disease appeared to have become quiescent, and so continued till 1907, when blisters began to appear spontaneously on his much-deformed fingers; and during the earlier months of 1908 he presented a number of very large maculae which had newly appeared. He was in the course, therefore, of an active remission, but his general health did not suffer. On March 16th, 1908, he began to receive nastin B 1, 1 c.cm., every seventh day; on August 18th the interval was diminished to five days; on September 12th he had nastin B 2, same dose, same interval; on November 2nd he resumed nastin B 1, 1 c.cm. every seventh day, and on December 28th ceased. His case was altogether unaffected; his temperature did not vary, and it is especially to be noted that there were no local reactions. His very marked and extensive anaesthesia remained, and still remains, exactly what it had been for many years; his maculae are now less brightly coloured, but are still perfectly plain.

CASE IV.—F. P., male, aged 70, tuberous leprosy; had probably suffered for five or six years when he was admitted in January, 1908. From January 28th to August 5th he received 1 c.cm. of nastin B 1 every seventh day, then ceased. At the end of the year, after comparison of his then state with that recorded on admission, it was seen that no changes had taken place except those usually observed in old-standing cases as a result of the regularity of hospital life and feeding. Improvement was not to be expected in this case. The patient was senile on admission, and died of senile decay during 1909. But it is to be noted that there was no reaction at any time, either local or general.

CASE V.—F. E. B., male, aged 32. The first signs ascribable to leprosy were observed by the patient in 1898; he was admitted in 1903, and was then suffering from pure leprosy of the nerves. The disease continued active, as was shown in various ways (prolonged hypersensitiveness of, perhaps, all nerves; a general eruption of maculae, etc.), but mutilations, paralyses, and disturbances of sensation did not much advance, and his general health remained good. During September, 1908, a *lèpróme en nappe* appeared on the right buttock; from this bacilli were easily obtained in abundance for the first time in the case. He thus entered on the transition from nerve to skin leprosy, or, rather, the latter became added to the former manifestation. At beginning of April, 1909, when the signs of the skin form of his disease had slowly developed and progressed, he began to suffer from an acute exacerbation, which, however, was strictly confined to the nerves; they became greatly swollen, tender, and developed neuromas. On April 20th, that is to say, after the exacerbation had already lasted two or three weeks, he was given nastin B 1 every seventh day till May 21st, from May 28th to June 26th nastin B 2 every seventh day, thence to July 30th the same every fifth day; and from that date to the end of the year the same every fourteenth day. It produced no general reaction (his temperature remained unaltered till the middle of June; then he began to have some fever, which lasted, though with short intermissions, till the end of August only; but no connexion at all could be traced between this elevation of temperature and the injections, with which, it will be observed, it coincided only in small part). It did not cause any local reaction either. No effect on his disease was produced; the exacerbation followed a quite usual course. Disturbances of sensation and paralyses remain what they were before treatment.

Thus nastin showed itself in my hands an entirely inert body, save for some irritant effects limited to the seat of injection. My experience seems to have been identical with that of Dr. Lenz[3] of Equatorial Africa. Both his and mine differ *in toto* from Professor Ziemann's[4] account of his trial in the Cameroons, which was so favourable that he asked for a special appropriation of £400 for the purchase of supplies for the ensuing year. Both differ also from favourable accounts furnished by several independent observers[5] in India. On the other hand, they would appear to resemble the result of trial in Manila;[6] also in a single tuberous case in London, and of a more general trial in Hamburg, as I have learnt from private communications. On the whole, the only suggestion that Dr. Lenz was able to make by way of explanation of the discrepancy—namely, that his supply for some reason had been at fault—seems unlikely to prove valid. The following experience bears upon it. Towards the end of 1908 I learnt that nastin had been administered to a single white patient, suffering from tuberous leprosy, in the Dominion of New Zealand, and that an injection of

nastin B 2 had been followed in him on one occasion by a reaction of such violence that the form was deemed to be unsafe and was definitively thrown out of use. I had no reason at all for doubting the soundness of my supply; but here, it seemed, was an opportunity of testing such a suspicion as Dr. Lenz has more recently mentioned, and at my request the Chief Health Officer of New Zealand was good enough to turn over to me the remainder of his stock of nastin B 2. I applied it in the following way:

H. F., male, aged 40, lepra tuberosa, duration unascertained (but probably several years), received 1 c.cm. of nastin B 2 (N.Z.) on three days with two intervals of two days each. His temperature remained unaffected and no other result ensued.

Cases I and II (above) each had 1 c.cm. of nastin B 2 (N.Z.) on each of two days; Case III had one such dose; in Case V the nastin B 2 continuously administered on and after May 28th to the end of the year was part of this New Zealand supply.

In none of the patients did it cause any reaction, either local or general. These discrepancies are puzzling. It is possible that they have their psychological aspect.

As regards the bacilli in the cases described above, they had their usual appearances, and no changes could be detected. Professor Deycke's description[7] of the degenerative alterations observed after treatment do not (I think) indicate anything unusual. In cases of leprosy, in which bacilli can be easily obtained from the surface of the body, it is generally found that wholly-stained specimens lie among a larger number of others which are either vacuolated, or dotted, or reduced to mere acid-fast granules. In many situations none wholly stained are found; in some, which perhaps are generally more recent deposits, all may be wholly stained. The imperfect bacilli can take a differential stain.

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# THE SCIENCE COMMITTEE OF THE British Medical Association.

## REPORT CXX.

## PERITONEAL BLOOD TRANSFUSION.

BY A. E. BOYCOTT, B.Sc., M.D.OXON.,
LECTURER ON PATHOLOGY, GUY'S HOSPITAL.

BLOOD injected into the peritoneal cavity is quickly absorbed into the circulation, with the exception of a small quantity which remains entangled in the omentum. The volume of the circulating blood is within a few days adjusted to its proper level, so that the concentration of red cells is increased and a condition of polycythaemia produced. The general phenomena are fully described by Hunter,[1] where an abstract of the older literature will be found.

In previous investigations Boycott and Douglas[2] determined the rate at which the red cells contained in the blood of normal rabbits transfused by direct intravenous injection into other normal rabbits are destroyed. They found that the mean daily amount of haemoglobin destroyed, expressed in terms of oxygen capacity, varied from −0.19 c.cm to 0.44 c.cm., on an average 0 24 c.cm. It was the immediate object of the present research to see whether the rate of destruction of red cells passed into the circulation via the peritoneum was greater or less than this. In a series of twenty-two experiments a mean daily rate of 0.55 c.cm was found. From a consideration of the nature of the stimulus which excites a rabbit to destroy the red cells of another rabbit which it may find in its circulating blood, it appeared that the relatively foreign nature of the cells was an important factor. The degree of foreignness of the cells is presumably increased by passing them through an extravascular position (peritoneum) on their way to the circulation, and it is suggested that this is the reason why cells so transfused are destroyed more rapidly than when they are put straight into the blood of the recipient. With intravenous transfusions the rate of daily destruction increases as the process advances, while with intraperitoneal transfusions the rate is much quicker during the first than during the second week.

The red cells are not destroyed by a process of intravascular haemolysis, nor has it been found possible to induce the production of autolytic or isolytic substances in the blood serum of rabbits by repeated intraperitoneal injections of whole or laked blood, nor by destroying a rabbit's red cells inside the body by such a poison as phenylhydrazine. The initial phase of destruction seems to find its morphological expression in abundant phagocytosis of red cells by the endothelial (stroma) cells of the lymphatic glands and spleen pulp. Within these cells the red corpuscles are broken up, and pass gradually to a condition of amorphous pigmented débris, some of which gives the reaction for inorganic iron. This phagocytosis is very much more abundant with intraperitoneal than with intravenous transfusions—an observation in accordance with the view that the cells are made more foreign by passage through the peritoneum.

Apart from the various other reasons which point in the same direction,[3] these observations suggest that intravenous transfusion is to be preferred to intraperitoneal transfusion, as giving a prospect of more lasting benefit to the recipient. This conclusion does not, however, necessarily follow, since experiments show that considerations of whether the red cells are needed in the body can outweigh those concerning the precise degree by which they are foreign to the economy.

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# Memoranda:

## MEDICAL, SURGICAL, OBSTETRICAL.

### LYSSOPHOBIA OR HYDROPHOBIA?

IN June, 1903, my orderly—a Mohammedan Sepoy of the Kapurthala Infantry—was bitten by a dog on the outer side of the left leg below the knee. The wounds (two) healed in eight days, and he had forgotten all about the incident until February 9th, 1905—one year and eight months later—when he felt unwell, irritable, and fretful; that evening he had some fear of water, and was evidently thinking about the bites. On the following day (February 10th), when sitting in the quarter guard, he told his comrades the story of the dog, mentioning his symptoms of the previous day and his fear of water. The native officer in charge did not think him really ill, but at 11 p.m. locked him up in an adjoining room, and at 6 a.m., when he opened the door, found that the man had developed symptoms of hydrophobia. His brothers were sent for, and they conveyed him to his house in the city. He was quite conscious, but, as he bit at the sight of water, his eyes were bandaged during the journey. When I saw him at 11 a.m. on February 11th he was sitting on his bed retching and spitting with a brass basin in front of him. His hands were kept down by a pillow placed in front of them. He was biting and snapping, with quiet intervals. His aged mother watched by his side and when he wanted to bite, a pillow was each time thrust toward him and he bit it. He occasionally raised his hand to his mouth as if to bite, but he never closed his teeth over it, nor did he leave any impression of teeth on the skin, although the pillow presented to him was torn to bits. His eyes were wild, ferrety, intensely congested, and the pupils dilated. In the intervals he spoke naturally, and asked his brother to give me a chair. He held up his leg and pointed out the scars of the bites, which had a blue congested look. With great vehemence he declared that he had felt pain in the

bites on the previous day, and that they were severely painful then. He said he would die, and I feared he must. I gave him 10 c.cm. of antitetanic serum which he swallowed, but was sick soon after. I had to leave the town, but at noon he was ordered a pill containing ext. cannabis ind. and cocaine, 1 grain of each; but was sick after, and probably vomited the pill. He retched again at 1 p.m. and 2 p.m., but slept or was quiet in the intervals, and at 5 p.m., when he was seen by Dr. Sadik Ali, the convulsions had ceased, he asked for an orange which he sucked, and soon after he drank an ounce of water; this was repeated several times, and when on my return next day I drove to his house at 11 a.m., he stood up on his cot and saluted me. He was well, his eyes were clear and normal, and the pulse was 96.

Later I ascertained that at 8 a.m. on February 11th a powder had been administered by a local Hakim, who was said to have cured a case of hydrophobia. Violent sickness and retching followed, and at 3 p.m. a second powder of the same kind was given. After much difficulty I procured from the Hakim enough powders to treat 20 cases. Their composition was given as follows:

*Powder No. 1.*—Potassium bichromate, 4 grains; some mercury and sulphur triturated together; croton seed, say, 1 to 2 grains; cloves, condiments, etc., to make up a powder of 12 grains.
*Powder No. 2.*—Common salt, 12 grains.

Both powders to be given at the same time.

I have seen three cases of hydrophobia; one in St. Thomas's Hospital in 1864, a second at Guy's in the Sixties, the third in Amritsar in 1882 when civil surgeon there. I have heard and known of numbers, specially when serving in Central India. I had no doubt that this was a true case of hydrophobia. My assistant, Dr. Sadik Ali, had seen thirteen cases of true hydrophobia in Kapurthala, and had no doubt in his mind. The violent vomiting and retching puzzled us, but this symptom can be attributed to the potassium bichromate. If this was a case of hydrophobia, the man was absolutely cured, and within six hours of my first seeing him, when the violence of the symptoms was such that had they not ceased he must certainly have died from exhaustion.

The *Lancet* of July 18th, 1903, p. 160, contains a report of a case of lyssophobia or spurious hydrophobia.

The patient was a Eurasian medical student, aged 20, who had within the previous year seen, and helped to attend, three cases of hydrophobia. On May 15th, 1903, he was deeply bitten on the base of the left thumb by a rabid dog. While under treatment at the Pasteur Institute, Kasauli, India, on May 22nd, or the eighth day after the bite, he suddenly developed symptoms of hydrophobia. His aspect was one of extreme terror, eyes wide open, pupils dilated; he had great dread and spasm at the sight of or on an attempt to drink water. At first sight his case appeared to be typical of hydrophobia, but against this view was the fact of its being impossible for hydrophobia to develop after so short an incubation period as seven days. He was therefore ordered 15 grains of chloral and 20 grains of potassium bromide in water, which, by dint of firmness, he was induced to swallow, and he retained it. He slept for five hours, woke up much better, and was well by the evening.

My own case differs particularly in the long lapse of time before the appearance of the initial symptoms and by the premonitory symptoms on February 9th and 10th, specially local pain in the site of the bites. The man had no doubt been thinking about these bites and hydrophobia, though what started such ideas after a long period of oblivion is not known. Against the case being hydrophobia is the rapidity of the development of acute symptoms on February 11th, the rapidity of the cure, and the fact that he never bit his own hand, while a pillow was torn to pieces.

Guernsey. JOSHUA DUKE, Lieut.-Col. I.M.S. (ret.)

## AVULSION OF THE EYEBALL DURING INSTRUMENTAL DELIVERY.

IN the Memoranda of the BRITISH MEDICAL JOURNAL of January 22nd I read with great interest Dr. Donaldson's case of avulsion of the eyeball, as strange to say only three days before I had a similar case, the first I had seen or ever heard of, although I have been in practice twenty years. The mother was a primipara, of very diminutive stature and deformed, 20 years of age. She had a contracted pelvis, and I had the greatest difficulty in delivering with forceps.

When the baby was born, I was astonished to find the right eye lying on the cheek. I replaced it, but the child was dead. A good account of injuries to the child's eyes occurring during birth is contributed by Stumpf, of Munich, to Winckel's *Handbuch der Geburtshulfe*, III, 3, page 491. He says that there is no form of injury, from simple effusion of blood under the conjunctiva to complete destruction of the globe, which has not been seen even after perfectly spontaneous delivery. Subconjunctival haemorrhages may be observed forming semilunar areas around the corneal edge, and even retinal and choroidal haemorrhages with detachment of retina. Coburn made *post-mortem* examinations on 36 children, either stillborn or dead, within a few days after birth. In 5 there were sclerotic and in 17 retinal haemorrhages (1 with detached retina). In 4 haemorrhage into the optic nerve, in 5 haemorrhage into its sheath. In 4 subhyaloid and in 2 intravitreous haemorrhage. Paul estimated the frequency of retinal haemorrhage in spontaneous births at 20 per cent. and at 50 per cent. in cases of contracted pelvis. Such haemorrhages may be very extensive, and if involving the macula there may be permanent visual disturbance. In recent times retinitis pigmentosa has been referred to haemorrhages at birth. Wolff observed the occurrence of haemorrhage in the connective tissue and retina, and also of strabismus in spontaneous birth, with special frequency in cases of contracted pelvis, face presentations, anterior parietal presentations, and forceps cases; but he referred the lesion not to direct pressure, but to the retinal haemorrhage of asphyxia. Werhli thinks that such congenital retinal haemorrhage may be the cause of glioma retinae.

Very extensive haemorrhage may occur during forceps delivery, especially when the blade of the forceps has been applied over the outer canthus, or on the frontal bone, or over the eye itself. Under such circumstances great sclerotic and conjunctival effusions or haemorrhage into the anterior chamber, or into or behind the globe may be seen. These commonly occur in consequence of fracture of the roof of the orbit, or of the upper orbital margin, or of the lacrymal bone, extensive haemorrhage may lead to corneal opacity. Without any malposition of the blades of the forceps, the increased pressure of the cerebro-spinal fluid on the optic nerve may lead to lymph stasis and compression of the central artery, and thus to functional or atropic disturbances in the globe. Retrobulbar effusion may cause traumatic exophthalmos, although spontaneous delivery may also be followed by exophthalmos. Further consequences are paralysis of the muscles, especially of the abducens, the rectus superior, and the orbicularis palpebrarum. Intracranial haemorrhage also may cause such paralysis. In cases in which the forceps are pressed directly on the eye there have been seen luxation of the lens in traumatic cataract.

Cramer has recorded a case of complete rupture of the globe in difficult forceps delivery in anterior parietal presentation.

It is proper to say that, according to very good authorities, it is sometimes very difficult to avoid getting the blades of the forceps into such dangerous positions, especially in narrow pelves and abnormal presentations, so that it does not follow that the accoucheur is to blame for the damage done to the eye.

The eyes may be injured by careless and violent examination. Wecker gives a case in which the eye was mistaken for the anus, and the eyeball destroyed by the finger. In another case narrated by Bock the eyeball was completely luxated from between the lids, and, in spite of reposition, was lost through suppuration.

Ossett. G. SYMERS MILL, M.D.Edin.

## A NEW VEGETABLE FOR DIABETICS.

I SHOULD like to draw attention to a vegetable now offered for sale in our markets which is thoroughly suited for the use of diabetics on strict diet. It is sold under the name of Chinese artichoke, and the price I have been charged for it is 8d. per lb., half a pound making a good dish. The vegetable has been identified by my colleague, Professor West, as the tuberous rhizomes of a plant known as *Stachys tuberifera*, one of the Labiatae closely allied to our native "woundwort." These contain practically no starch, but this is replaced by inulin, which is present in solution in the cell sap.

Birmingham. ROBERT SAUNDBY.

## POISONING BY OIL OF EUCALYPTUS.

IN connexion with the cases of poisoning by oil of eucalyptus recorded by Dr. W. R. Kirkness in the JOURNAL of January 29th, p. 261, the following case may not be without interest.

R. V., a little girl aged 1 year 8 months, was suffering from bronchitis, and was being treated by the application of eucalyptus oil to the chest externally. On the advice of a sympathetic but ignorant neighbour, the mother gave the child a teaspoonful of the oil by the mouth. About twenty minutes afterwards the child became violently sick, and appeared to suffer intense abdominal pain. Very soon, however, she sank into a semicomatose condition.

When I saw her she was much collapsed, respiration was irregular, soft and sighing, and the pulse was intermittent and very feeble. Vomiting had ceased but the bowels moved frequently. The child was pale, and the temperature was subnormal (96.4° F.). The conjunctival reaction was sluggish, and pinching the skin elicited hardly any reaction. The child was put to bed, well wrapped up in blankets, and hot-water bottles were placed in the cot, and a stimulant in the form of brandy was administered, but no emetic was given, nor was the stomach washed out, as it was thought probable that the oil had been already ejected. The child soon improved, and in two days appeared none the worse for her experience.

In this case probably about 1½ drachms of oil of eucalyptus were given, because a "domestic teaspoonful" is, as a rule, more than a "medicinal teaspoonful," which is equivalent to a drachm. Incidentally, it might be mentioned that in prescribing for children it would be a wise precaution to see the spoon that is to be used for measuring, and the "signetur" could be modified accordingly.

Edinburgh. J. ALLAN, M.D.

# Reports of Societies.

## MEDICAL SOCIETY OF LONDON.

*Monday, February 28th, 1910.*

SAMUEL WEST, M.D., F.R.C.P., President, in the Chair.

### *Atypical Pneumonia.*

SIR JOHN BROADBENT read a paper on some difficulties in prognosis in cases of atypical pneumonia with prolonged pyrexia. The atypical cases were met with in adults chiefly in association with influenza. The insidious onset, the delay in the appearance of physical signs, the intermittent pyrexia might at the outset render the diagnosis obscure; while the absence of a definite crisis, the continued pyrexia lasting, it might be some weeks, with progressive loss of flesh, would render the prognosis a matter of considerable difficulty, as in some cases empyema, or malignant endocarditis, might develop, whilst in others after a prolonged period of septicaemia recovery took place without further complications. In children, the tendency in apical pneumonia to the supervention of symptoms suggestive of cerebro-spinal meningitis, might cause undue alarm, or the vagaries of a prolonged attack of lobular pneumonia might lead to a suspicion of pulmonary tuberculosis. Broncho-pneumonia complicating enteric in children might also mask the symptoms of the latter affection, which in children often ran an atypical course.

### *Protracted Pyrexia in Pneumonia in Children.*

Dr. REGINALD MILLER read a paper on some cases of protracted pyrexia in pneumonia in children. He said that out of 217 cases of pneumonia in children no fewer than 55 (25.3 per cent.) showed fever for a period extending beyond ten days. Such a percentage could not but be regarded as too high, and was, he supposed, due to the fact that the longer the fever lasted the more likely was the child to be sent to hospital. He divided the 217 cases into primary and secondary pneumonias, including in the former cases of lobar pneumonia and primary broncho-pneumonia, and in the latter such cases as appeared to be due to an extension of bronchitis. These two groups contained 126 and 91 cases respectively. The proportions of the protracted cases in the primary and secondary pneumonias showed little difference, being respectively 26.19 per cent. and 24.17 per cent. When the fever was prolonged beyond ten days the danger to life was considerably increased, the death-rate in the protracted cases being rather more than three times as great as in the unprotracted. That was shown in the following figures. Taking all cases together, the death-rate was 15.20 per cent., being 11.11 per cent. and 20.87 per cent. in the primary and secondary pneumonias respectively; but while in the unprotracted cases only 9.87 per cent. died, in the protracted the mortality was 30.90 per cent.

Dr. W. CAMAC WILKINSON suggested that the injection of tuberculin in adult patients would have cleared up the diagnosis in doubtful cases, where tuberculosis might have been the cause of the disease.

Dr. THEODORE WILLIAMS did not believe that a reaction to tuberculin showed tuberculosis; he would require "a good many reactions" to convince him.

After some remarks by Dr. G. A. SUTHERLAND,

Dr. SAMUEL WEST said that though the tuberculin reaction proved the patient was tuberculous, it did not prove that the inflammation he was suffering from at that time was tuberculous.

## THE ROYAL SOCIETY.

*Thursday, February 24th, 1910.*

Sir ARCHIBALD GEIKIE, K.C.B., President, in the Chair.

### *The Biochemistry of Growth.*

MR. W. CRAMER AND MR. HAROLD PRINGLE contributed two papers on the biochemistry of growth. The first dealt with the total nitrogen metabolism of rats bearing malignant new growths. The nitrogenous metabolism was determined before and after transplantation with a rapidly growing spindle-celled sarcoma. The results showed that less nitrogen was necessary to build up a certain weight of tumour tissue than to build up an equal weight of somatic tissue of the host. No evidence could be obtained that the tumour cells had a higher affinity for nutritive material than the growing cells of the host, or that they secreted substances having a toxic action on the nitrogenous metabolism of the host. The conclusion was that the cells of the new growth derived the nitrogenous material necessary for the building up of new tissue by a sparing of the protein metabolism, so that a smaller amount was utilized as a source of energy and a large amount for the building up of new tissue. The second concerned the distribution of nitrogenous substances in tumour and somatic tissues. Estimations were made of the total nitrogen content of rapidly growing transplanted tumours (carcinoma and sarcoma), and of the tissues of the animals bearing these tumours. The results, which confirm those arrived at by observations recorded in the first paper, showed that the nitrogen percentage of rapidly growing tumours was smaller than that of the tissues of the host or that of the tissues of normal animals. This diminution in the nitrogen percentage was found to be due to the fact that, weight for weight, the cancerous tissue contained only about three-fourths of the amount of protein substances present in the tissues of the host. In other words, with the same amount of protein a bigger mass of tumour tissue than of host tissue could be built up. The simpler abiuret nitrogenous products of cell metabolism, however, were present in slightly greater amount in the cancerous tissue. It was pointed out that these results had a bearing on the mode of growth of cancerous tissue. Since the tissue of a neoplasm could be built up with less protein than the same weight of host tissue, the former must grow more rapidly than the latter under circumstances where both were using up nitrogenous material for mere growth at the same rate.

## ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION OF SURGERY.

*Friday, February 11th, 1910.*

J. LENTAIGNE, P.R.C.S.I., President, in the Chair.

*Paralysis from Injury to Brachial Plexus.*

MR. C. A. BALL exhibited a young soldier who in May, 1908, was driving a wagon, when the horses ran away. Some canvas on the wagon fell on him, and he became jammed between the horses. He fell on his shoulder, and suffered a fracture of the base of the skull and an injury to the left brachial plexus. He had recovered completely from the fracture, but there had been no improvement in the paralysis resulting from the injury to the plexus. The lesion had apparently been localized to the fifth and sixth cervical nerves, but the nerve of Bell and the nerve to the rhomboids were perfectly normal, and the lesion must therefore be below the origin of these. He was anxious to know whether he should leave the patient alone or whether there would be any use in making an anastomosis between the sixth and seventh nerves.

Mr. BALL exhibited for Mr. E. H. TAYLOR a patient with complete tear of the brachial plexus. The patient, a young man aged 19, four months previously had become entangled in a threshing machine. A spindle had gone in above the clavicle just over the subclavian artery. There was now complete paralysis of all the muscles of the left arm, loss of sensation, and the subclavian artery had evidently become obliterated. There was no sign of improvement in sensation.

Mr. H. STOKES exhibited a case of traumatic asphyxia and injury to the brachial plexus in a young man whose coat had been caught in a revolving shaft, which wound up his clothes and collar and strangled him. He recovered consciousness twelve hours after the accident, which occurred a fortnight ago, and two days later he began to show ecchymosis of his eyes. His left arm was flaccid; there was a scar on the skin caused by the clothes. He had a certain amount of paralysis of the left arm. He had had complete loss of sensation all up the left arm, but it was now confined to the fingers.

Dr. MOORHEAD described three similar cases which he had had in a single session three years ago. He did not think there would be any use in doing a nerve anastomosis unless there was some slight reaction to the galvanic current. Mr. W. S. HAUGHTON said his experience of immediate nerve suturing had been very satisfactory; but cases in which he had attempted suturing at intervals of five months to two years had not been satisfactory. He had tried grafting a piece of sciatic nerve from a freshly-killed sheep into a man, but the result was not satisfactory. After some remarks by Mr. W. I. DE C. WHEELER, Dr. PEARSON said the injury in Mr. Ball's case was of the type seen during delivery, where pulling the head away from the shoulder stretched and ruptured the nerve trunks. He thought an anastomosis would be better than implanting into the seventh cervical. In implantations sound nerves found their way to their original distribution, so that in a lateral implantation of the fifth and sixth into the seventh it was possible that the seventh might not supply the others, but keep to its own function. Dr. STOKES quoted a case of fracture of the clavicle and traumatic aneurysm. The man was operated on and was now alive but with complete paralysis of the arm. It appeared that the scar of the aneurysm had involved the nerves, and he suggested that something similar had occurred in Mr. Taylor's case. The SECRETARY had met a case of injury in which haemorrhage occurred in the spinal cord, and the patient was left with a considerable amount of paralysis in sensation and motion. He thought Dr. Ball should make an attempt to find the site of the lesion, and suture the two ends of the nerve together. The CHAIRMAN said that if he had two such cases as Mr. Ball's and Mr. Taylor's he would make an attempt to operate, but he would do so without much hope of success. His own experience of late suturing of torn nerves was not satisfactory; the operation was often an exceedingly difficult one. He thought there was no reason to doubt that the last case would probably recover, as the amount of injury was small compared with the other two cases.

Mr. BALL, in reply, said the muscles in his case reacted to the galvanic current, and he would, if allowed make an attempt to cut down and see what could be found. Mr. STOKES also replied.

*Operation for Fractured Femur in a Child.*

Mr. W. I. DE C. WHEELER showed a child aged 4 years who suffered an oblique fracture of the femur with marked overriding of the fragments. Treatment by reduction and immobilization in plaster for fourteen days failed to reduce the shortening completely. A long incision on the outer side of the thigh exposed the fracture; the sharp ends were imbedded in the muscles, but extension had little effect in bringing the fractured extremities into apposition. After some difficulty the fragments were replaced and held together by the application of two Lane's plates and six screws. Three encircling aluminium bronze wires passing through hole in the steel plates and round the oblique ends of the fracture completed the operation. Recovery was uninterrupted, with no shortening of the injured limb. He strongly advocated operation in fractures of the femur in cases where by *x* rays it was evident that anything like good apposition of the fragments was impossible by non-operative methods. Pain and discomfort disappeared after the operation, and little or no subsequent treatment was necessary. In a child no splint need be used after the first few days. In about six to eight weeks the patient was allowed to use the limb, the joints being freely movable by that time. Skiagrams were shown to illustrate the condition before and after operation. Mr. STOKES recalled two cases in which he had to remove wire after some years.

Remarks were also made by Dr. HARVEY, Dr. STEVENSON, and Mr. HAUGHTON, and the PRESIDENT said he had himself taken out a good deal of wire, and also screws and plates, but he would not consider that the slight disadvantage of removal counterbalanced the advantage gained by operation.

Mr. WHEELER replied.

*Multiple Bone Tuberculosis Two Years after Treatment.*

The PRESIDENT exhibited a case of multiple bone tuberculosis two years after treatment. There was tuberculosis of the wrist, elbow, and face, and of the bones of both feet. Treatment had covered about a year, and had ended two years before. The patient was completely cured of the tuberculosis, notwithstanding recent statements that such was an impossibility. He excised the wrist, which was swollen to six times the normal thickness. She was scraped in the different tuberculous foci, and he amputated two toes. The treatment was simple. The wrist was left somewhat stiff, but he believed it could be made much freer by massage and by forcible extension and relaxation under an anaesthetic.

Dr. HARVEY said he had tried fibrolysin in stricture of the urethra and in cicatrization after burns, but was not in a position to know the ultimate result after the patients left the hospital.

Mr. HAUGHTON inquired if the President had used cautery, or carbolic acid, or other corrosive in the treatment of the soft parts.

Dr. STEVENSON asked if tuberculin had been used, or if the scraping had been depended on to act in the same way as tuberculin did in increasing the power to overcome the tuberculous deposits.

The PRESIDENT said he had tried fibrolysin solely in a case, with perfect satisfaction. Another case was still under treatment, and had enormously improved. His method of treatment of tuberculous disease was to scrape first, and then to introduce pure phenol in large quantities. In addition he gave large doses of chloride of calcium. The patient had got two injections of tuberculin.

*Fracture of Head of Humerus.*

Mr. W. S. HAUGHTON demonstrated a case of oblique fracture through the tuberosities and surgical neck of the humerus treated by plates and screws. A heavy woman, age 50, two months previously slipped on ice, fell back, and tried to save herself by putting out her arm backwards. *X* rays showed that all efforts at reduction had failed. As union in the deformed position resulted in pain, stiffness, and loss of power, it was a type of fracture in which modern methods of diagnosis and modern surgical technique

would achieve great success. The type of fracture alluded to was one near a joint where there was a small piece of bone (the head of the humerus in this case) which cannot be held or controlled by external means; while the rest of the bone (the shaft) furnished a long lever on which the muscles exercised great force, and caused permanent deformity. The older methods failed to produce good results in this class of fracture, and it was in such cases that true mechanical fixation by steel plates screwed in under precise aseptic conditions promised the most brilliant results. This case was so treated, as shown in the skiagrams exhibited, for which he was indebted to Mr. Stevenson. An incision was made along the anterior border of the deltoid, a few of the clavicular fibres were divided, and two plates screwed in. Passive movement of the joint was started five days afterwards, and continued daily since.

The case was discussed by the PRESIDENT, Drs. PEARSON, WHEELER, HARVEY, and HAYES, and Mr. HAUGHTON replied.

## ROYAL SOCIETY OF MEDICINE.

### SECTION OF MEDICINE.

*Tuesday, February 22nd, 1910.*

Dr. MITCHELL BRUCE, President, in the Chair.

### *Pericardial Effusion.*

DR. SAMUEL WEST, in the course of a paper on the diagnosis and treatment of pericardial effusion, considered paracentesis in serous pericardial effusion. Paracentesis was rarely necessary, for serous effusions in the course of rheumatic fever usually disappeared spontaneously, and often produced no urgent symptoms. Absorption when it once began was rapid, more rapid than in the pleura. The effusion was, no doubt, removed in the same way, by the lymphatic pump, worked by the respiratory movements on the one side and by the cardiac on the other. Large effusions disappeared spontaneously and recovery was complete, so that there were no signs even of adhesion of the pericardium. With care paracentesis was easy and safe. An exploration should be made first with a small needle. The needle must be sharp, the hand placed firmly upon the chest, and the puncture made by the fingers rather than by a thrust of the hand and arm. That would avoid anything like a jump when the needle penetrated the thorax, which might take it too far and possibly injure the heart. The only fatal result he had ever seen in a case of paracentesis for serous effusion was due to the laceration of the heart by the sudden jump of the needle. The great secret of safety was to have a sharp, hollow needle, and to insert it with a gentle, firm pressure. He had never had any accident himself. Exploratory punctures might be made in any place if the physical signs suggested it. He had tapped, for instance, at the base on the left side and even to the right. In the latter case his punctures withdrew blood only, and the withdrawal of the needle was followed by the immediate formation of a blood tumour under the skin the size of a swan's egg. Nothing further happened, however; the blood was rapidly absorbed, and the physical signs which had suggested the site of puncture disappeared. In an ordinary case, when the diagnosis was clear and there was choice of place given, the sites selected and advocated had been four. In Sibson's notch, namely, in the third left intercostal space near the sternum—a dangerous place on account of the proximity of the left auricle; in Rotch's angle, in the fifth right intercostal space, to the right of the sternum—another risky place, because the right auricle could not be far away, even if the effusion were of large size. Sears, in a paper published in the *Boston Medical Journal*, said he had tapped many times in that position, but generally without obtaining fluid. Schaposinkoff said the third or fourth space on the right side was better and safer than the fifth, but both were risky. The choice of Sibson's notch or Rotch's angle was based upon experimental injections. The fifth space to the left of the sternum was advocated because the puncture was made in the spot which was not covered with lung, and so the pleura was not perforated. Though this might be a good place for trephining the thorax with a view to incising the pericardium, it was not the best place for paracentesis. Nor need the risk of puncturing the pleura with the needle or with a fairly large trocar and cannula be seriously considered. In paracentesis the mere perforation of the pleura on the way to the pericardium did no harm. Dr. West had seen cases in which, where the needle inserted had perforated the pericardium, but the cannula could not be made to penetrate it, the fluid had leaked into the pleura and been absorbed rapidly or subsequently removed from the pleura by tapping, in each case with rapid recovery of the pericardium. The safest place was the fifth or sixth intercostal space outside the left nipple line, but well within the area of dullness; for here, owing to the displacement of the heart upwards and the distension of the pericardium outwards, was the widest space between the heart and seat of puncture. All the fluid that could be obtained should be removed. Often it did not reaccumulate, but if it should a second and third paracentesis might be performed, or as many as necessary. Cases were recorded in which paracentesis had been performed many times.

After Dr. J. B. LEES and Dr. EWART had spoken, the meeting was adjourned to March 3rd.

### SECTION FOR THE STUDY OF DISEASE IN CHILDREN.

*Friday, February 25th, 1910.*

Dr. CAUTLEY in the Chair.

### *Congenital Oedema of Leg.*

MR. MAYNARD SMITH showed a case. There was well-marked oedematous swelling of the right foot and of the leg on its front and outer aspects. The leg was half an inch longer than the left. No history of any similar condition in the family was obtainable. The swelling was noticed at birth. The case was discussed by Dr. ESSEX WYNTER, Dr. SPRIGGS, Dr. PARKES WEBER, and Dr. PERNET.

### *Uraemia and Diphtheria.*

A specimen of the urinary organs of a boy who died apparently from uraemia; diphtheritic membrane being found in the trachea after death was exhibited by Dr. WALTER CARR. Both kidneys were shrunken. The ureters and bladders were considerably dilated, the condition suggesting the existence of some obstruction to the outflow of urine but none could be found. The boy died after a short illness with symptoms of uraemia. At the autopsy, in addition to the changes already described, the lower end of the trachea was found covered with diphtheritic membrane in which the diphtheria bacillus was isolated.

### *Myelogenous Leukaemia.*

Dr. WHIPHAM showed an example of this disease in an infant, aged 18 months. The child was dark-skinned and flat-nosed, with a widely open anterior fontanelle. The lymphatic glands in the neck, axillae, and groins were palpable and somewhat hard. The abdomen was enlarged, and the spleen extended to 4½ in. below the umbilical level. The blood count showed over 20 per cent. of myelocytes. On admission there was a large subcutaneous haemorrhage on the extensor surface of the right arm and a similar patch on the right shin. Further blood counts showed that the number of leucocytes is increasing. The case was discussed by Dr. FORSYTH and the CHAIRMAN.

### *Non-Cretinous Mental Deficiency with Goitre.*

Dr. FORSYTH showed a boy, aged 5½, of normal height and weight, who had suffered from fits since the age of 2. He was restless, talkative, and decidedly odd. His expression was vacant. His forehead was narrow and asymmetrical. His eyes had marked epicanthic folds. He showed a moderate non-cystic enlargement of the whole of the thyroid gland.

### *Chloroma.*

Dr. ESSEX WYNTER showed the specimens from a case shown at a previous meeting. The child died in February of asthenia. The specimens showed diffuse chloromatous growth, transforming all the red marrow, and being conspicuous in the flat bones and ends of the long bones. There were deposits also beneath the periosteum. Glands in the iliac vertebral and cervical regions were diffusely affected, and the spleen was of a similar colour. There were no distinct secondary growths. A colour photograph was exhibited.

Dr. LEDINGHAM said that he considered it impossible to divorce chloroma from acute lymphatic leukaemia. There were infiltrates in the long bone which was rather strange, and he regarded the case as a transition type between these two conditions.

*Cyst of Humerus.*

Mr. HUGH LETT showed a case which had been successfully operated on. The boy, aged 13, was knocked down in an accident in August, 1909. On examination, the upper end of the humerus was much thickened for about 2 in. below the head of the bone. A fracture was discovered a short distance below the surgical neck. A skiagram showed expansion and rarefaction of the upper 3 inches of the diaphysis of the humerus. Two years previously a diagnosis was made of endosteal sarcoma, and amputation advised. This was refused, but an operation was performed. The bone was opened, and a thin mucoid fluid escaped. The affected part of the diaphysis was removed, leaving an interval of 3 in. between the epiphysis and the healthy part of the shaft. The point of an ebony rod was inserted into the epiphysis, and the blunt end into the medullary cavity of the shaft. In this way the epiphysis was firmly connected with the shaft. The periosteum was sutured. At the present time movement of the right upper extremity was perfect, and the muscles were rapidly increasing in size. The new bone was firm and regular. On microscopical examination the condition appeared to be one of cystic fibroma.

The case was discussed by Mr. LOCKHART MUMMERY.

*Congenital Absence of Femur.*

Mr. P. LOCKHART MUMMERY showed a case of congenital absence of the left femur in a male child aged 2 months. The left femur was absent and there was no thigh. The left leg below the knee was quite normal, but was rotated outwards. The child was the youngest of three, both the others being quite normal; the parents were also normal, and the labour was easy and natural. The *x*-ray photograph showed that the diaphysis of the left femur was missing. The lower epiphysis of the femur appeared to be present, and there was a small island of cartilage just above this; otherwise the femur was absent. The child showed no other congenital defect, and was a healthy baby.

*Hypertrophic Stenosis of Pylorus.*

Dr. PORTER PARKINSON showed a specimen from a female infant who died when aged 5 weeks. There were no definite symptoms till the infant was 3 weeks old; then vomiting set in, there was visible stomach peristalsis, and a tumour was felt on one occasion. The specimen showed thickening of the wall of the stomach. At the necropsy this displaced 2½ oz. of water, and doubtless it was larger during life. A probe could not be passed through the pyloric opening.

The CHAIRMAN said it was a good illustration of one of the usual results of attempting to cure the condition by medical means. There were still many people who supported the view that a cure could be obtained by that means.

Mr. LOCKHART MUMMERY said that these cases must be operated upon at the earliest opportunity if there was to be any chance of saving the child's life; delay was fatal.

*Congenital Thoracic Deformity.*

Dr. E. I. SPRIGGS showed a case of congenital thoracic deformity—absence of part of the pectoralis major. The patient was a boy aged 11. The sternocostal part of the pectoralis major and minor were absent on the left side. The nipple was normal in appearance, but higher and nearer the middle line than on the right. Photographs were shown on the screen of a number of thoracic deformities of this nature. In many of these cases the costal cartilages and the anterior ends of the ribs were wanting in the mammary region, only a thin layer of skin and subcutaneous tissue protecting the lung. This condition had been ascribed to pressure of the upper limb of the affected side of the thorax *in utero*.

## WEST LONDON MEDICO-CHIRURGICAL SOCIETY.

*Friday, February 4th, 1910.*

Dr. NEVILLE WOOD, President, in the Chair.

THE following were among the exhibits; Mr. MCADAM ECCLES: *Retroperitoneal myxo-fibro-lipoma* which he had removed from a woman aged 39. It weighed 19 lb. 11 oz. The patient made an uninterrupted recovery. Mr. ALBAN DORAN mentioned the difficulties and dangers met with in these cases by himself and others. They were due more especially to the vessels coming from the aorta and veins and occasionally to adherence of the capsule to the intestine. In the latter case resection might be imperative. Mr. T. B. LAYTON: (1) A tumour of the submaxillary gland measuring 5 in. in length and 4 in. in breadth and thickness. The patient had noticed some enlargement in this region all her life, but it had been enlarging during the last two years. On microscopic examination it was seen to have the same structure as the mixed parotid tumours. (2) *Embryoma of the testis* removed from a man aged 28. It measured 6 in. by 5 in. by 4 in. Microscopic slides were shown demonstrating a great variety of tissues, some epithelial, others mesoblastic. Mr. T. MCDONAGH: Microscopic sections from nodules in the skin from two cases clinically resembling one another, one a case of a late syphilide, the other of mycosis fungoides. In both lesions the swelling consisted of a plasmona, but the transformations of the plasma cells were quite distinct. Both cases gave a positive Wassermann reaction, but Mr. McDonagh considered them to be histologically distinct. Mr. N. BISHOP HARMAN: (1) A mounted specimen of an eye removed on account of injury. An endeavour should be made to save an injured eye, but if seriously injured and irritation continued for two or three weeks it was better to excise it. (2) A hair from an "albino" negro. The patient was a full-blooded negro, 20 years old, in excellent condition. His father and mother and brothers and sisters were quite black. Mr. CAIRNS FORSYTH: Six gall bladders removed by operation. One of them showed calculous cholecystitis with carcinoma of the neck of the gall bladder, and another hour-glass contraction with carcinoma arising at the stricture and invading the liver. Mr. L. A. BIDWELL: (1) A specimen of carcinoma of rectum, to show that it was necessary to remove the perirectal fat in order to clear away the glands. The sigmoid in this case had been brought down, and complete union with skin at the anus had taken place; both sphincters had been left intact. (2) A large number of gall stones removed from a man aged 43. About 300 were moved from the gall bladder and 50 from the common duct. Dr. BERNSTEIN: A large number of specimens, including one in which oesophageal cancer had perforated a bronchus; ruptured tubal pregnancy showing the fetus; and the organs from a case in which phlegmonous oesophagitis with rupture into the thorax had occurred after a hearty Sunday dinner. The wall of the oesophagus showed the same condition as that common in phlegmonous gastritis.

## MEDICO-CHIRURGICAL SOCIETY OF GLASGOW.

*Friday, February 4th, 1910.*

Professor MUIR, President, in the chair.

DR. JAMES MILLER read notes of cases treated by injections of bacterial vaccines: (*a*) *Tuberculosis of the urinary system.* Case I, male aged 27, with tuberculosis of the left kidney and ureter; treatment by in all ten injections of tuberculin R. along with normal horse serum; complete recovery. Case II, female aged 22, with tuberculosis of bladder; treated by five inoculations of T.R. and normal horse serum extending over three months; marked improvement. (*b*) *Tuberculous glands in the neck.* Two cases, a girl aged 12 and a woman aged 39; the former treated by eleven inoculations of $\frac{1}{15000}$ mg. T.R., the latter by twelve inoculations of $\frac{1}{10000}$ mg. T.R.; in both complete recovery. (*c*) *Gonococcus infections.* Four cases: (1) Gonorrhoea in a male; vaccine prepared from patient's gonococci; complete recovery after three injections. (2) Gonorrhea in a male, treated by mixed

vaccine of gonococci and *Staphylococcus albus* obtained from patient; recovery after four injections. (3) Male with urethritis, arthritis of knees, conjunctivitis, and iritis; treatment as in Case II; recovery after three injections. (4) Female with gonorrhoea (contracted from husband), arthritis, and conjunctivitis; treated by vaccine prepared from husband's gonococci; recovery after four inoculations. (*d*) *Staphylococcus infections.* Four cases. Case I, man aged 60, with carbuncle on neck, numerous abscesses over trunk and limbs, and cystitis, pyaemia, and severe glycosuria. Treated by vaccine prepared from patient's own *Staphylococcus pyogenes aureus;* twenty-four inoculations given. Complete recovery. Cases II, III, and IV had local infections more or less severe, with dyspepsia and slight glycosuria. Treated as Case I with complete recovery. Dr. W. R. JACK read notes on four cases of *Gonorrhoeal arthritis* treated in Glasgow Royal Infirmary by vaccine therapy. Case I, male aged 25, arthritis of both knees; gonorrhoea a year before; gonococci not found but opsonic index low; treated by six injections of a polyvalent vaccine at intervals of four or five days, beginning with about four million cocci and increasing by two million each time to a maximum dose of ten million. Dismissed well in one month. Case II, male aged 28, arthritis of knees, shoulders, and wrist; gonorrhoea two years before; no organism found, but index low. Treatment as in Case I. Dismissed well in six weeks. Case III, male aged 31, arthritis of knee, shoulder, and thumb. No improvement under salicylates; no history of gonorrhoea and no gonococci found, but index low. Treated as Case I; dismissed practically well after seven and a half weeks' vaccine treatment. Case IV, male aged 29, arthritis of left knee; gonorrhoea one month before admission; gonococci obtained from fluid in knee-joint and vaccine prepared. Four injections given and patient dismissed well in eight weeks.

## SHEFFIELD MEDICO-CHIRURGICAL SOCIETY.

*Thursday, February 10th, 1910.*

Dr. GEORGE WILKINSON, President, in the Chair.

DR. SINCLAIR WHITE read a paper based on 114 cases of *Cancer of the large intestine.* He said the sclerosing type of cancer was the one most often met with in the colon. It grew slowly, was late in infecting the glands, and when freely excised was followed by recurrence in a smaller proportion of cases than in almost any other form of cancer. It was important to remember that nearly a third of the cases occurred in patients under the age of 40 years. The symptoms were usually indefinite until the growth had produced narrowing of the bowel. Then the coexistence of colicky pains and exaggerated peristalsis, with ever-increasing constipation, led to a diagnosis. The advent of obstruction should be the signal for colostomy, and advantage should be taken of the parietal wound to examine the growth and the abdominal viscera intraperitoneally. Colectomy should not be undertaken in the presence of obstruction. It was in any circumstances a dangerous operation, and should be reserved for patients who were neither old nor feeble. There was a growing feeling in favour of the operation in three steps, even where obstruction was not imminent. By adopting the triple method the risk was reduced from upwards of 40 per cent. to less than one-half that amount. He also showed a woman, aged 72 years, on whom he had performed *Rhinoplasty.* The entire cartilaginous framework of the nose had been destroyed by a rodent ulcer of seven years' duration. After freely excising the ulcer, a suitably shaped frontal flap which included the periosteum, and had its pedicle over the left inner canthus, was raised, and twisted into position. The large gap on the forehead was filled by a graft of the entire thickness of the skin taken from the chest. The wounds healed kindly, and the aesthetic effect of the operation was remarkably good. Professor J. M. BEATTIE and Dr. A. E. BARNES showed preparations demonstrating the phenomena of haemolysis and its applications in the *Syphilis serum reaction* of Wassermann, Neisser and Bruck. In answer to questions Professor Beattie remarked that the reaction was certainly not specific, but had been found on the Continent to have great empirical value. It was found in scarlet fever, leprosy, trypanosomiasis and some cases of tuberculosis. Dr. J. MOIR MATHIESON showed a series of pathological specimens, among which were (1) brain of an imbecile, showing cystic condition of cerebrum; (2) brain showing left hemiatrophy; (3) the left hemisphere of a brain showing arrested development of the fissure of Rolando; (4) the left hemisphere of a brain showing incomplete porencephaly in paretic dementia; (5) gall stones imbedded in the peritoneum; (6) perforation of aorta and oesophagus by needle. Mr. A. C. TURNER showed a young man with alopecia areata. The chief feature was a red, depressed, glazed, bald patch on the front of the scalp, with great atrophy of the scalp tissues.

## LIVERPOOL MEDICAL INSTITUTION.

*Thursday, February 10th, 1910.*

Dr. BRADSHAW, President, in the Chair.

DR. BUSHBY read notes of two cases in which the prostrate condition caused by *Sea-sickness* persisted after landing; in both cases acetone and diacetic acid were present in the urine. In some previous cases the prostration lasted very much longer than in the two cases related; in these treatment was directed to the relief of the acetonaemia. If the acetone bodies could be credited with a share in the causation of continued prostration, nausea in cases such as he had related, perhaps they played an important rôle in the etiology of prolonged sea-sickness. Mr. COLIN CAMPBELL related (1) a case in which a man aged 21, suffering from bronchiectasis, was treated by the *Intratracheal method.* The fact that the patient had subluxation of the jaw and was tongue-tied introduced special difficulties. He also suffered from vomiting of dense ropy mucus caused by swallowing putrid sputum. Treatment was commenced in November, 1908, and from then till now he had had 4 oz. of a 10 per cent. solution of izal in glycerine. For the past four months there had been no fetor. The discharge had diminished from 30 oz. daily to a dozen small expectorations. The chest expansion had increased from 1 to 3 in., and he could now run 600 yards in two minutes. (2) A note on a case of chronic *Angioneurotic oedema and urticaria* in a lady aged 26, the subject of asthma. Since the age of 7 she had suffered from urticaria of the hands and arms, and from recurrent hard oedematous swellings in various parts of the body. Sauerin tablets were given for two months, and since last October neither skin affection had reappeared. Dr. J. HILL ABRAM mentioned the association of eosinophilia with asthma and with intestinal intoxications of which presumably urticaria was a manifestation. Mr. F. T. PAUL described three cases of *Villous tumour* of the bladder. He advocated early and thorough operation in these cases, and the subsequent cystoscopic examinations to watch for possible recurrence, which should be dealt with promptly. Instruments designed to facilitate the operation were shown. Mr. RUSHTON PARKER related two cases in his own experience in which there had been the rare occurrence of spontaneous detachment of the growth. In one of these the symptoms ceased spontaneously. Dr. BRIGGS reported the complete cure of a villous growth in a spinster aged 68 by suprapubic cystotomy and excision of the growth; the patient lived nine years after the operation, and died from cerebral apoplexy. Under the base of the tumour $\frac{3}{8}$ in. of the ureter was removed in the bladder wall. The specimen was shown. He also exhibited an extensive villous growth treated by removal of the whole bladder per vaginam, and the implantation of the ureters in the vaginal roof. The patient, aged 58, lived for 22 months, and died of surgical kidneys. Dr. Briggs was doubtful if this treatment was to be commended. Mr. NEWBOLT said he had treated several cases in the advanced stages of the disease, and in one instance had removed 8 oz. of growth from the bladder; this gave relief for some years, but the patient died from haemorrhage. In a youth of 18 who died four years after operation the growth had extended through the bladder wall into the pelvis, and was apparently malignant.

## HARVEIAN SOCIETY.

AT a meeting on February 17th, 1910, Dr. HANDFIELD-JONES, President, in the chair, Mr. GAY FRENCH read a paper on *Some points in middle-ear suppuration, its sequelae and treatment.* In dealing with the etiology he emphasized the severity of cases following scarlet fever, and also drew attention to oral sepsis as a factor

in its causation. He then exhibited temporal bones showing perforations into the middle fossa and lateral sinus. In a brief account of the bacteriology he drew attention to a group of saprophytic organisms which under conditions of oral sepsis become pathogenic and cause, when they attack the middle ear, a very foul discharge unaccompanied by the formation of any protecting granulations. In dealing with the examination and treatment he protested strongly against the use of the syringe and the insufflation of powders, and directed attention to the importance of treating diseased conditions in the nasal, naso-pharyngeal, and oral cavities, the maintenance of free drainage, and the application of antiseptics, preferably in the form of drops. Where possible, he considered the best plan of treatment to be the passage of hot air medicated by antiseptics through the Eustachian tube into the middle ear, and he showed an apparatus for the purpose. He used air at a temperature of 140° F., repeating the treatment for five minutes daily, and reported 8 cases in which the treatment had cured 5 and greatly improved the remainder, the average duration of treatment being about a fortnight. After a brief reference to vaccine treatment he gave the indications for mastoid operation, and then spoke of some of the sequelae of middle-ear suppuration, mentioning the good results he had obtained by fibrolysin in some cases of deafness and tinnitus. In the discussion which followed Dr. WILLIAM HILL said he thought that Mr. Gay French went too far in his condemnation of the syringe. He failed to see the rationale of the hot-air treatment, and recommended the use of protargol drops. Dr. FITZGERALD POWELL also thought syringing safe provided proper methods were used, and emphasized the importance of treating nasal and post-nasal conditions. Mr. STUART LOW agreed with Mr. Gay French in condemning the syringe, and gave his experience of treatment with steam charged with kelvelin. Dr. ANDREW WYLIE also condemned syringing, and said that he had used hot air, but for the treatment of deafness not suppuration, and gave statistics of 84 cases. Dr. ATKINSON drew attention to the importance of enlarging small openings in the membrana tympani and using a suction apparatus. Dr. DAN MCKENZIE'S experience of hot-air treatment had been unfortunate. He believed labyrinthine disease much commoner than supposed, probably due in some cases to careless syringing. Mr. LAMING EVANS congratulated the author, and Mr. GAY FRENCH replied.

## ULSTER MEDICAL SOCIETY.

*Thursday, February 24th, 1910.*

Dr. MAGUIRE, Vice-President, in the chair.

THE fifth meeting of the session was held in the Medical Institute, Belfast.

### *Coxa Vara.*

Dr. J. SINGLETON DARLING (M.O. Lurgan Poor Law Infirmary) read the following notes of cases of coxa vara: A young lady in comfortable circumstances, at the age of 19 helped a cousin to learn to cycle, running alongside and holding her up. She suffered from some pain in the left hip, which she attributed to strain. Soon after, while menstruating, she ascended a mountain, and the pain became worse. It was stated that she was then treated for morbus coxae. When seen a few months later, though there was a slight shortening of the limb, there was little limitation of movement except that of abduction, nor was there flattening of the nates. On standing or attempting to walk there was much pain and lameness. As this happened sixteen years ago, coxa vara was not thought of. The patient was kept in bed, and improved slowly; for five years she remained free from pain, but there was slight lameness and the gait was somewhat waddling. Some six years from the beginning of her trouble she complained of pain in the other (right) hip, and, with further information as to coxa vara, the nature of the case was recognized. The right limb became 1 in. shorter than the left, and the tip of the trochanter reaching the level of the anterior superior iliac spine. At this time the diagnosis was confirmed by Professor Sinclair. Later the left hip became painful, and for two years she was almost wholly confined to bed. She gradually improved, the pain ceased, and she is in good health, but both trochanters reached above the level of anterior superior spine. Forcible abduction only brings the knees 3 in. apart, flexion is practically absent, and she can only waddle from one room to another. Dr. Darling called attention to the recrudescence of the disease after five years' freedom, and to the fact the femur now sound was the first attacked, a point worthy of note in considering the question of operation. The second case was a working woman aged 37, a virgin, small and tea fed. Until five years before she came under treatment she was active; pains then began in the hips, she steadily grew worse, and now can scarcely walk. The knees cannot be separated, slight flexion is possible in the right hip, scarcely any in the left. The right limb is ¾ in. longer than the left, both trochanters are above the level of the anterior superior spine. On vaginal examination the pubic arch was found so narrowed that with difficulty a finger entered, the ramus on the left side reaching the middle line and just within ostium bulging beyond it. On rectal examination the ischium was found to reach the middle line. The right pelvic wall had also fallen in but not to the same extent. The third case was a woman aged 28, presenting scars of tuberculous sinuses in the neck; some years ago Dr. Darling had excised her sister's knee-joint. The patient four years ago had a baby, and soon afterwards was noticed to be lame. She complained of pain, but worked in a factory until shortly before admission. The pelvis was greatly tilted, making the left limb look several inches shorter than its fellow, though it was really but an inch. No complaint was made of the right limb, but the trochanter almost reached the level of the anterior superior spine, its tip being above Nélaton's line. Abduction was somewhat lessened, other movements little impaired. The condition of the left hip was very puzzling. The tip of the trochanter could be felt one inch above Nélaton's line, while above and behind was a large hard mass that did not move with the limb, which was adducted far behind the middle line; flexion was not lessened, the foot was everted. The patient was very desirous of an operation, the adduction being the chief cause of distress. Feeling very doubtful whether improvement could be expected, Dr. Darling refused, but eventually was induced by the mother to operate. The neck of the femur was bent on the shaft until the angle was obliterated, on the dorsum ilii was a large bony mass overhanging the trochanter and locking it in that direction. A wedge was cut out of the neck at its junction with the trochanter permitting wide abduction of the limb which was then kept in that position, but it was too early to state the result. Dr. Darling added that he had seen 3 cases in boys, each unilateral and much less severe than those described. In each case the deformity was confined to the neck of the femur or pelvis, there was no rickets, and all the patients were straight-limbed. In the second case the deformity of pelvis was not characteristic of mollities ossium, but the falling in of the lower part of the pelvis was extreme and points to a profound change in the bones.

Mr. MITCHELL said one of the important points was the early diagnosis from morbus coxae; he thought the presence of actual shortening was of help in the case of coxa vara.

Mr. FULLERTON raised the question of mistaking cases of rheumatoid arthritis.

Mr. MOORE related a case in which no trace of rickets was present.

Sir JOHN BYERS drew an analogy with osteomalacia.

### *Tuberculous Kidney.*

Mr. FULLERTON read a paper on tuberculous kidney, which was discussed by Sir JOHN BYERS, Dr. DEMPSEY, Dr. DARLING, Mr. STEVENSON, Dr. CLEMENTS, and Dr. HICKS.

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THE following appointments have recently been made by the governing body of the Lister Institute of Preventive Medicine: Mr. H. R. Dean, M.A., M.B., B.C., M.R.C.P., and Mr. G. H. Macalister, M.A., M.D., D.P.H., to be Assistant Bacteriologists to the Institute; Mr. H. McLean, M.A., M.D., Ch.B., to be Senior Assistant in the Bio-Chemical Department; Mr. Ashley Cooper, B.Sc., Jenner Memorial Research Student; Mr. Roland V. Norris, M.Sc., Grocers' Company Research Student; and Mr. S. G. Paine, F.I.C., Research Student in the Chemical Department.

# Reviews.

## A NEW TEXTBOOK OF TREATMENT.

THE latest contribution to the literature of medical treatment, *A Textbook of Medical Treatment (alphabetically arranged)*,[1] emanates from Belfast, and is supplied by Dr. WILLIAM CALWELL of that city, the outcome, as the preface informs us, of twenty years' practical experience, both as teacher and physician. The work is large and well printed; the subjects are arranged in alphabetical order, with numerous cross-references and a full index. In that index, however, there may be noted some striking omissions among the subjects which may be classed as special, but which are at all times liable to come before the practitioner of general medicine, for whom presumably the work is primarily intended. Such matters as tonsillitis, laryngitis, and other common throat affections, diseases of the ear and nose, disturbances of menstruation, and gynaecological subjects generally, are all conspicuously absent, while the most uncommon forms of skin disease find mention and description under various headings. In the description of some disorders and in the account of insanity the aid of a specialist has been enlisted with the most satisfactory result, and doubtless the co-operation of specialists in other branches would have strengthened the work as a practical book of reference. Having said thus much as to the shortcomings of the book as a whole, we can cordially commend the scientific and interesting method adopted in the description of those conditions of which the writer obviously has had abundant personal experience. On some of the more debatable subjects, such as acidosis, he is content to quote accepted authorities, while the more familiar conditions of arterial degeneration are dealt with in the spirit of one who knows. The conditions of life which conduce to healthy old age, and which must be observed by most people after the age of 40, are well indicated, and the difference between healthy old age and prolonged existence is well shown.

The article on insanity is contributed by Dr. W. Graham, and is full of those minor details, so often overlooked, which make for success in the long run. Thus, for instance, the various methods of forcible feeding are fully described and its dangers and difficulties stated to be more apparent than real. The value of hypnotism in those forms of moral insanity in which no organic lesion is present is fully recognized.

Some sections, descriptive of the newer methods of treatment, such as lumbar puncture and stovaine injection, might have been amplified with advantage, as it is most important that the failures as well as the successes of heroic measures should be fully described. The work is well up to date and contains a vast amount of valuable information.

## NASAL SKIAGRAPHY.

THE passing of a probe through the nostril and upwards into the frontal sinus undoubtedly calls for skill which can be acquired only by a highly special training and practice. It is, therefore, not unnatural that the beginner should meet with bare bone upon accomplishing this feat, and that he should requisition the services of the radiographer to register his achievement. The seductive skiagram of the head in profile showing a probe passed up the nose into the frontal sinus is becoming so familiar as a stock exhibit, and is so convincing, as to create a general impression that all difficulties in the application of the *x* rays for the diagnosis of disease in the accessory sinuses of the nose have been solved. The profile skiagram showing the nasal probe in the frontal sinus may be as useful to the rhinologist as the papier-mâché model of the eye to the optician, but it is certainly not the "end-all," although it may be the "begin-all," of nasal skiagraphy. A study of Professor A. KUTTNER'S book on the inflammatory diseases of the accessory cavities of the nose as seen in skiagrams[2] shows that the subject is not so simple as the particular skiagram to which we have referred, and which finds no place in the work before us, might suggest. Professor Kuttner presents the subject in a very practical manner in the form of an atlas of twenty plates. Each plate is prefaced with a fly-page, which carries the descriptive matter and also protects the plate. The first two plates are skiagrams showing the appearances presented by the accessory sinuses in the normal state. The relative position of the sphenoidal sinus is demonstrated by means of an injection of quicksilver. The remaining eighteen plates illustrate the appearances presented by the sinuses during inflammatory disease.

Preceding the plates there is a fasciculus of fifteen pages of letterpress. The author, after a brief introductory chapter, proceeds to a consideration of the technique and apparatus required for obtaining successful skiagrams. For diagnostic purposes the profile position of the head is seldom suitable owing to the duplication of the sinuses which are necessarily superimposed in the photograph. This difficulty is overcome by taking the skiagram in the antero-posterior position. After a chapter descriptive of the skiagram of the skull, the author proceeds to consider at relatively greater length the value of radiography in the diagnosis and treatment of diseases of the accessory sinuses. A critical consideration of the views held by various authorities and of the fallacies and the difficulties which the subject presents brings the author to a statement of his conclusions.

Professor Kuttner's work will help both the general practitioner and the specialist out of difficulties. Whilst it is impossible in the present day to acquire a very deep insight into every department of orificial surgery, it is at the same time always unsatisfactory to have to take opinions entirely upon trust, more especially upon matters as to which in the minds of the general public the practitioner is held to be able to form an opinion for himself. The diagnosis of suppurative disease in the accessory sinuses of the nose, apart from the antrum of Highmore, is no easy matter for the specialist, and for the general practitioner it is undoubtedly a difficulty. Furthermore, there is no region of the body in which the anatomy is more variable and treacherous than that under discussion. Herein lies the value of Professor Kuttner's work; it will help both the general practitioner and the specialist out of these difficulties. The benefit to be derived from it depends upon knowing how to interpret skiagrams of these regions. The experienced collector of mezzotint engravings will not expend any considerable sum of money upon a print which he could only examine under glass, and moreover he would not be expected to do so. In the same way it is necessary to learn how to interpret the negatives as well as the photographs.

Although we often read about "a complete and uninterrupted recovery," the treatment of suppurative disease in the nasal sinuses other than the antrum is a veritable bugbear to the rhinologist. The recoveries absolutely conform to the Irishman's definition of the "flue"—"a disease with which one is ill for twelve months after one is cured." The modern textbooks on rhinology, however desirous their authors may be of teaching us everything about the subject, cannot teach us, and never will be able to teach us, two things: one is the number of times the frontal sinus has been opened and found to be free from disease, and the other the true mortality resulting directly or indirectly from operations upon the accessory sinuses of the nose. "Il nous faut de l'audace, et encore de l'audace, et toujours de l'audace." Can the words of Danton, when he urged his fellow-countrymen to snatch Brunswick from the Prussians, be for ever ringing in the ears of the beginner ambitious to satisfy his rhinological vanities? *De l'audace*—one frontal sinus opened and found to be healthy. *Encore de l'audace*—the other frontal sinus attacked but found to be absent. *Toujours de l'audace*—the meningeal cavity thrown into direct communication with the nose. Danton, even in the midst of revolutionary fury, knew when to hold his hand. The study and practice of nasal skiagraphy will save many from that last but unhappy thought—if we may be allowed to paraphrase the last words uttered by the great patriot of France when he mounted the tumbril—"I crave forgiveness of God and man for all these things. Oh, it were better far to be a poor practitioner than to meddle with the sinuses of men."

[1] *A Textbook of Medical Treatment (alphabetically arranged)*. By W. Calwell, M.D., Physician to the Royal Victoria Hospital, Belfast. London: Edward Arnold. 1910. (Roy. 8vo, pp. 634. 16s.)

[2] *Die entzundlichen Nebenhöhlenerkrankungen der Nase im Röntgenbild*. Von Professor Dr. A. Kuttner, Berlin. Berlin and Wien: Urban and Schwarzenberg. 1908. (Dbl. sup. roy. 8vo, pp. 15; 20 photographischen Tafeln. M. 20.)

## MEDICAL GYNAECOLOGY.

AT the present time, when the beds in almost every gynaecological department in our great teaching hospitals are filled with cases of abdominal section, a student who does not attend the out-patient department may well conclude that the diagnosis and treatment of the diseases of women consists in opening the abdomen and examining in that way the pelvic organs. A like state of mind may doubtless be produced in the French student. Hence the desirability of a treatise which should instruct the medical student or the doctor as to the extent to which the diseases peculiar to women can be effectively treated without the use of knife or scissors. We therefore judge the book on the medical treatment of diseases of women[3] which Professor ROBIN and Dr. DALCHÉ have written to be excellent in its purpose. But we cannot say that we think the execution is as good as the design. The first 134 pages are allotted to what the authors call *fausses utérines*. This means women who think that they are ill; women with symptoms ascribed by them to the uterus, but really due to disease of some other part; and women who really have some morbid change in the uterus, but are ill chiefly because they are also suffering from much graver disease of some other viscus. We must accept the authors' view as to the necessity for French family doctors of instruction of this kind. But such errors as, for instance, mistaking gall stones or nephritis for disease of the uterus, are not common in English family practice. A hundred years ago all gynaecology was medical. To-day it is hard to define medical gynaecology. Is the dilatation of the cervix for a sterile patient with dysmenorrhoea medical or surgical treatment? What about the insertion of a pessary to correct a displacement; is that medical or surgical? Approaching the matter from another side: the prescribing of iron for amenorrhoea; of a hypnotic for insomnia; these are instances of purely medical treatment, but are they gynaecology? A book on "medical" gynaecology nowadays should be more properly entitled "minor" gynaecology; for if every kind of chirurgical treatment is eliminated little remains but the application of the general principles of medical therapeutics to a small corner of the field of practice. But this small corner might yield a crop of useful practical information if we were only sure that what we are told is the result of the writer's experience, and not either copied from other books or imagined for the sake of completeness. At p. 198, in describing the treatment of amenorrhœa and dysmenorrhoea from atresia or stenosis of the genital canal, Dr. Dalché tells us that union of the labia majora is rare; when it exists they must be stripped asunder, and if this cannot be done, divided by the knife, and reunion prevented by a plug of gauze. Adhesion of the labia minora is more common; they can be separated by simple traction; if union is closer, it is necessary to resort to incision. We have, and we doubt not many of our readers have, had female children brought to us in whom the labia seemed to be adherent, but by pressing them apart the adhesion was separated. But in how many had this condition persisted unnoticed until it obstructed menstruation? Never, in our experience. Nor have we ever known such congenital adhesion require separation with the knife. We have known ulceration of the vulva in childhood produce cicatricial contraction of the vaginal orifice which might, we suppose, be called adhesion of the labia; but such contraction we have not known to be discovered by the menstrual pain it caused. The book would have been far better had the authors contented themselves with describing what they had seen, and not what they suppose may be. The most frequent cause of dysmenorrhoea is said to be stenosis of the cervix; and the treatment is to dilate the cervix and keep it dilated. The reader is given his choice of several different ways of attaining this end. He may pass a laminaria tent every day for a week, and repeat this once a month, and leave a metal stem in the uterine canal for some days afterwards. He is told that he may dilate rapidly with Hegar's dilators, or with a two-branched or three-branched expanding dilator. He is advised to insert a laminaria tent before using Hegar's dilators. He may, if he prefers, divide the external os with a bistoury or scissors in the middle line or laterally. He may also divide the internal os with a probe-pointed bistoury. But this operation is bad. Preference is given to rapid dilatation under anaesthesia with Hegar's dilators of a cervix prepared by the twenty-four hours' presence of a laminaria. Why, then, describe the other methods? The author apparently does not know—for he does not mention it—that moderate dilatation of the cervical canal, done once only, will sometimes cure dysmenorrhoea for life. He gives no adequate directions for selecting the cases of dysmenorrhoea which dilatation will cure. He speaks much of "metritis," and appears to accept the antiquated "pathology," if such it can be called, of Dr. Henry Bennett. The work is not illustrated, except for a few woodcuts taken from an instrument maker's catalogue, showing various abdominal belts and a vaginal douche. The book is swollen by a good deal of repetition. We cannot say we think it a great contribution to medical literature.

A REVIEW of the first edition of Dr. BANDLER'S *Medical Gynecology* was published in 1908 (vol. ii, p. 1274), but we were not able to say that we thought it a good book. It has now been revised.[4] The chief addition is a chapter on what the author calls "Head zones." May we submit that the word "Head" is not an adjective? Head's zones is what most people would write. The author's description of them is taken from a paper by Elsberg and Neuhof (the reference to which is not given) and not from Head's own writings. The author is still unacquainted with the treatment of dysmenorrhoea by dilatation with metallic bougies. He has not read Dr. William Hunter's work on *The Severest Anaemias*, nor does he know of Dr. Hunter's earlier papers on which his recently published book is based, and therefore his account of chlorosis is inadequate. The author does not realize how completely the electrical treatment of pelvic disease has fallen into discredit among gynaecologists in this country. In one respect Dr. Bandler is beyond us, for he prescribes drugs of which we have not heard. We live and learn.

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## THE GASTRO-INTESTINAL FACTOR IN DISEASE.

IN a series of essays,[5] some of which have already appeared in the French medical periodicals, Dr. P. LONDE, an *ancien interne* of the Paris hospitals, has elaborated his views on preventive medicine—not the preventive medicine which consists in warding off the dangers from without, which are manifest to the ordinary senses, but rather the prevention of the hidden dangers from within, which can only be recognized by symptoms obvious to the physician, but not equally so to the patient or his friends.

In so far as his main thesis is concerned, it may be said to be wound round a very simple basis. In common with another well-known practitioner, the essayist regards the "stomach as the primary cause" of the majority of the ills, specific or non-specific, that flesh is heir to. The alimentary canal, described by Bouchard as the great laboratory of poisons, is held to be the starting-point of the chief disorders to which the body is liable. Hence the early recognition of the first steps on the downward road becomes of vital importance, and the prompt correction of the digestive error must follow in due course. Put in simple form, it implies that attention must be paid to the smallest departure from the normal physiological round in order to avert the possibility of the serious illness of which it may be the forerunner. Such a rule, although admirable in theory, carries with it the disadvantage that it can seldom be strictly carried out without converting the patient into an introspective valetudinarian. It is probably sound doctrine that the minor aches and pains of life are all due to some defective chemical process which has resulted in the circulation of products that cannot pass through the tissues without giving rise to some symptoms of irritation, but it

[3] *Traitement médical des maladies des femmes.* Par Albert Robin, Professeur de Clinique Thérapeutique; Paul Dalché, Médecin de l'Hôpital de la Pitié. Troisième édition. Paris: Vigot Frères. 1909. (Roy. 8vo, pp. 584. Fr. 12.)

[4] *Medical Gynecology.* By Samuel Wyllis Bandler, M.D., Adjunct Professor of Diseases of Women, New York Post-Graduate Medical School and Hospital, etc. Second edition. Philadelphia and London: W. B. Saunders Company. 1909. (Roy. 8vo, pp. 702. 150 illustrations. 21s.)

[5] *Essais de médecine préventive.* By Dr. P. Londe of Paris. Paris: Félix Alcan. 1910. (Cr. 8vo, pp. 354. Fr. 4.)

is only when such symptoms pass from the minor to the major stage that the average man or woman can be got to pay much attention to them. Doubtless, a good many serious illnesses could be warded off if the counsels of perfection advocated by Dr. Londe could be carried out, and although such counsels rarely prevail, his advocacy of the stitch in time is worthy of careful consideration.

The earlier essays are devoted to a consideration of certain symptoms, such as spasm, oppression, asthenia, acquired and constitutional, neurasthenia, and family albuminuria. In a second series he discusses morbid states in general, and especially their prodromal stages. The general unity of disease is insisted upon, and specialism is criticized somewhat severely. In addition to the disorders of the alimentary canal he emphasizes depression of the nervous system as a potent factor in determining the further progress of incipient disease. The third series of essays deal with the questions of prophylaxis as applied to special diseases of the respiratory, renal, cardiac, and other systems.

As an example of the process of reasoning adopted we may instance the initial vomiting and rigor of acute pneumonia, which the author assumes to be the outcome, or rather culmination, of a more or less prolonged disturbance of the alimentary tract. But it is not quite clear how the preliminary stages are to be recognized. He regards the temperature as an after-phenomenon, due to the aggravation of the pneumonic infection by the circulation of the by-products from the disturbed gastric function. In the case of meningitis and other encephalic troubles of babies he maintains that gastro-intestinal irregularity is commonly to be observed before the nervous symptoms declare themselves, and that by proper care in dieting such attacks may sometimes be warded off. The occurrence of epileptiform seizures in young adults may in like manner be held in subjection by proper treatment of the alimentary canal. Rest to the stomach by means of restricted and carefully-selected diet forms the chief point in his treatment, coupled with judicious purging and the use of intestinal disinfectants.

In his peroration the author disclaims any desire to influence the healthy, and addresses himself solely to the actually or potentially ailing; but his recommendations, if carried to their logical conclusion, must of necessity appeal most forcibly to those who imagine themselves to be in health. The essays are full of suggestive matter, and should stimulate thought on many points that are too frequently disregarded in the treatment of familiar forms of disease.

## SURGICAL ANATOMY.

THE great difficulty which every compiler of a textbook has to face is that of deciding what to include in the space at his command and what to leave out. This difficulty Dr. WOOLSEY has solved in a generally satisfactory manner in his book on *Applied Surgical Anatomy*.[6] Six years ago, when the book first appeared, we were able to congratulate the author on the general excellence of his work (BRITISH MEDICAL JOURNAL, 1903, ii, p. 661). To-day we can again offer him our congratulations, for the second edition is a distinct advance upon the first; it deals with anatomy from an essentially practical point of view, and draws the reader's attention to those facts which are of the most direct practical interest, omitting or touching but lightly on others which are of less essential importance from the point of view of the surgeon; yet, strangely and, as we think, unfortunately, the author has not seen fit to take any definite notice of the recent additions to the knowledge of the blood vessels and the lymphatics of the alimentary canal, although that knowledge is now playing such an important part in the surgical treatment of diseased conditions. We note also that, although the errors present in some of the figures of the first edition have been corrected, others still remain or have been introduced with new figures. Thus, on page 37, in a diagram intended to illustrate the veins of the head, and amongst them the cerebral veins and their communications, the term "great anastomotic vein" is applied to a communication between what the author calls the middle cerebral vein and the superior petrosal sinus; this is an incorrect application of a well-known term. Again, examination of Fig. 19 would lead an uninitiated person to the belief that the Eustachian tube lies in the interior of the cranium above the second and third divisions of the fifth cranial nerve; and in some other figures details of distinct practical importance are represented in a more or less misleading manner which might easily have been avoided.

In a comparatively small volume on *Surgical Anatomy*[7] Mr. MACEWEN has placed before the public an account of those anatomical facts which, in his judgement, are of most importance to the surgeon, and he has demonstrated at the same time their association with clinical phenomena. It follows naturally from the size of the volume and the magnitude of the subject that the descriptions are necessarily condensed, and that the space at the author's disposal has been occupied to its full extent. The volume is illustrated by a number of figures, some of which are original, whilst others have been borrowed, with full acknowledgement, from various well-known textbooks. It is of convenient size, it contains a large amount of information, and it will no doubt secure readers who will appreciate the author's method of teaching.

## SANITATION FOR SOLDIERS.

*Military Sanitation for Soldiers Serving in Hot Climates* is an expansion of a course of lectures delivered by Major BLACKHAM to officers and non-commissioned officers,[8] and is specially adapted to meet Indian requirements. The first chapter deals with the communicable diseases of soldiers, and in simple language gives a brief description of microbes—how they get into the body, and the means to be taken to prevent their entrance. There is also a table including most of these diseases which shows the mode of infection, duration of infectivity, quarantine periods, preventive measures, and other details. The second chapter deals with air and ventilation; the impurities of air are described, and special attention is called to those due to dust. The natural means of purifying air are mentioned, and stress is laid on the importance of ventilation, and on the means by which it may be carried out. In the next chapter the necessity for pure water and the evil results which follow the use of impure water are pointed out. The reader is told how good water may be distinguished from bad, how pollution may be prevented, and the various ways of rendering impure water innocuous, several simple purifiers and filters being described. The next three chapters deal with the food, the clothing, and the housing of the soldier respectively; the value of the various foodstuffs is discussed, and the best food for soldiers in the field is the subject of several pages. Some attention is given to tinned foods and how to discover whether they are wholesome. The best materials for various articles of clothing are described, and a good deal is said about the important subject of boots. The requirements for good barracks are gone into, and details given of the methods of keeping them wholesome. A short chapter is devoted to The Making of the Soldier, and special attention is called to the harm that may be done by insisting on too violent gymnastic exercises by young soldiers; the banefulness of cigarette smoking by them is also pointed out. The next chapter is devoted to disinfectants and disinfection. Various disinfectants are mentioned and the mode of using them explained. Stress is laid on the fact that deodorants are not necessarily disinfectants. The sanitary duties and arrangements in camp and on the march are the subject of another chapter; and the last describes how the sanitary service should be organized in peace and in war. The book is written in a pleasant and readable style, and will, we think, be found very useful by those for whom it is intended. At the end there are a number of questions on the subject of sanitation, and a reference to the pages in the official manual in which the answers will be found.

[6] *Applied Surgical Anatomy*. By G. Woolsey, A.B., M.D. Second edition. London: Henry Kimpton; and Glasgow: A. Stenhouse. 1909. (Roy. 8vo, 601 pages, 200 figures. 21s.)

[7] *Surgical Anatomy*. By J. A. C. Macewen, B.Sc., M.B., C.M. London: Baillière, Tindall, and Cox. 1910. (Demy 8vo, pp. 492, 61 figs. 7s. 6d.)

[8] *Military Sanitation for Soldiers Serving in Hot Climates*. By Major Robert J. Blackham, D.P.H.Lond., R.A.M.C. London and Bombay: W. Thacker and Co. 1909. (Demy 8vo, pp. 150; 12 illustrations.)

## NOTES ON BOOKS.

THE first edition of Professor W. SCHOLTZ's lectures on gonorrhoea,[1] which was published in 1904, dealt only with that disease as it affects the male, and the general complications such as gonorrhoeal rheumatism were not included in the book. The second edition, which contains some fifty pages more than the first, has been enlarged and improved by the addition of three new lectures—two on gonorrhoea in women and one on the gonorrhoeal metastases, including arthritis, tendo-vaginitis, endocarditis, etc. The first edition was decribed in the BRITISH MEDICAL JOURNAL as being, within its limits, decidedly one of the best of recent works on the subject. In its present complete form the new edition can be recommended with confidence as a trustworthy guide to the pathology and treatment of gonorrhoea and its complications in both sexes.

Ten years ago, when golf was still, in England, supposed to be a game for old fogeys, a book with the title *The Six Handicap Golfer's Companion*[2] would have appealed to a very limited number of readers; but nowadays, when strong young players are as plentiful as blackberries, it will appeal to the large number of those who, hopeless of touching the hard hearts of the handicap committee, must set themselves to live up to the reputation with which they have unwillingly been endowed. It is not a book for the absolute novice, nor is it one for any golfer in any stage to read through. Rather is it a companion to seek in those dark hours when a man is off his game, or when, having reached a certain stage of imperfection, he fails to improve. Usually such an one will have at least a suspicion of the part of his game in which he has gone wrong or fails to become better, and in this book, which is very systematically arranged, he will surely find a prescription for his disorder.

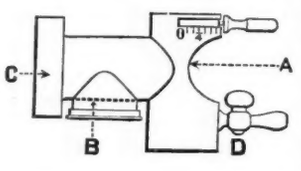
[1] *Pathologie und Therapie der Gonorrhoe in Vorlesungen.* Von Dr. W. Scholtz, Professor an der Universität Königsberg. Second edition. Jena: G. Fischer. 1909. (Sup. roy. 8vo, pp. 206; 2 plates, 22 illustrations. M. 4.50.)

[2] *The Six Handicap Golfer's Companion.* By "Two of his Kind." Chapters by H. H. Hilton and H. S. Colt. London: Mills and Boon, Limited. (Cr. 8vo, pp. 128; 15 illustrations. 2s. 6d.)

## MEDICAL AND SURGICAL APPLIANCES.

*A Valved Angle-piece for Inhalers.*

MR. THOMPSON ROWLING, Anaesthetist, Leeds General Infirmary, writes: The annexed engraving shows a new valved angle-piece suitable for use with an ordinary Glover or Hewitt's wide-bore modification. The slot marked A, admitting air, is guarded by a sliding valve which, when opened, shuts off, in an equal degree, the opening to the bag; when fully opened the latter is completely closed. The valve is operated by a lever carrying a pointer over an index, so that the proportion of fresh air being admitted is definitely known. Letter B shows an inspiratory valve of approximately the same area as the bore of the inhaler; it opens at once if the ether bag is collapsed in the slightest degree, the succeeding expiration passing on into the bag; the next inspiration is drawn partly from the bag and partly from the outer air by the lifting of the inspiratory valve, the next expiration passing wholly into the bag, and so on. Thus at each breath the valve lifts less and less until, when the bag is about half full, the valve ceases to act automatically. The presence of this valve renders attention to the state of inflation of the ether bag unnecessary; the bag never needs blowing up and cannot become collapsed. Letter C indicates the expanded rim of the angle-piece, which allows the mouth of a wide-mouthed thin rubber ether bag to rest on it sufficiently tightly to hold it, and yet to allow of its easy removal for cleaning; it moreover tends to hold the bag a little open, which is an advantage, and allows the inspiratory valve B to come into full action before the bag is quite empty. The tap D is so placed that oxygen can be given at any period of the administration, and independently of the position of any of the valves. The clinical advantages claimed for this modification are: (1) The administrator can change from a closed to an open method of administration, or use any intermediate combination of fresh and expired air he wishes, by simply turning the air valve lever. (2) The ether administration itself is continuous, and is not interrupted by the act of admitting fresh air, as must be done with the present inhalers; the face-piece, once accurately adjusted, need never be removed. (3) The ether bag needs no attention with regard to its state of inflation, and is easily removed for cleaning. (4) The patient's breathing is easier and quieter, and there is a greatly diminished tendency to get frothy, even with deep anaesthesia, on account of the fresh air and oxygen used, and the patient never gets blue. The appliance can be obtained from the sole makers, Messrs. Barth and Co., 54, Poland Street, W.




*An Ammonium Chloride Inhaler.*

Messrs. Hertz and Co. have placed upon the market a new form of ammonium chloride inhaler, which merits the attention of those who advocate this mode of treatment. It is based upon the principle of Godfrey's well-known inhaler, hydrochloric acid and ammonium being used to produce the gas, which, together with a large volume of air, is drawn into the lungs and expelled through the nose. It has the advantage that, when filled for use, it will work as well upon the second day as upon the first without further attention. The method of filling is as simple as that of Godfrey's, but, on account of the smaller size of the tube which admits air, one cannot inhale so large a volume as in the former. A few drops of menthol, eucalyptus, or other volatile oil at choice may be added, if it is desired, to obtain the further action of these drugs. Messrs. Hertz have also produced a compound under the name of "Lignosulfine" which gives relief in some cases of asthma. A few drops added to the inhaler will give great relief to some sufferers from this erratic disease. The inhaler is portable, has no rubber to get out of order, and is reasonably cheap.

## BRITISH MEDICAL BENEVOLENT FUND.

**FIFTEEN cases were considered at the February meeting of the committee, and grants amounting to £136 made to thirteen of the applicants. Appended is an abstract of the cases relieved:**

Widow, aged 39, of M.D., R.U.I. No income; for several years has acted as housekeeper without salary in return for a home for herself and son—a boy who has recently gone to Epsom College. Is now endeavouring to obtain a paid post. Relieved eleven times, £131. Voted £10.

Widow, aged 63, of L.R.C.P., L.R.C.S.Edin. No income, and finds increasing difficulty both to obtain and to do needlework, by which she has partially supported herself for many years. Relieved eleven times, £117. Voted £12.

Daughter, aged 48, of late M.R.C.S.Eng. No income; dependent for shelter on brother-in-law, whose means are very slender. Has undergone three grave abdominal operations, and is unfitted for any permanent occupation. Relieved once, £10. Voted £12.

Daughter, aged 59, of late M.R.C.S.Eng. Used to be a governess, but now suffers from epilepsy, which quite prevents occupation. Is given a home by a brother, a retired clergyman, who can ill afford it. Relieved twice, £22. Voted £10.

Widow, aged 60, of F.F.P.S.Glas. Quite unprovided for at husband's death. Supports herself and an invalid daughter by selling sweets on commission. Relieved twice, £36. Voted £12.

Widow, aged 43, of M.B., B.Ch.Aberd. Has supported herself by nursing, but at present is incapacitated by ill health, and dependent on a sister and her children, who can ill afford to help. Relieved twice, £15. Voted £10.

Widow, aged 40, of L.R.C.P.Edin. Since husband's death, several years ago, has acted as caretaker to a surgery, living free of rent, but receiving no salary. Is given slight help by relations and endeavours to earn a little by painting. Three children—two at institutions, and the youngest, aged 8, a cripple, living at home. Voted £10.

Wife, aged 47, of L.R.C.P.Edin. Asks for help because of the total incapacity of her husband, whose means have been exhausted by a long illness, and who has been confined to bed for the last six months. Three children, aged 14 to 10 years. Only source of income a small weekly allowance from a medical sickness fund. Voted £12.

L.R.C.P., L.R.C.S.Edin. Has been entirely incapacitated by illness for the last two years, and is dependent on two sisters, who keep a small school. Three children, aged 30 to 28 years, who with difficulty support their mother. Voted £10.

Widow, aged 53, of M.B., C.M.Aberd. Receives a few shillings a week from a small house and earns a few pounds in the summer by taking boarders if obtainable. Is not in good health, and asks for help to obtain a short change, which she is strongly advised to have. Voted £5.

L.S.A., aged 59. Used to practise in South Africa, but, after acting as a civil surgeon during the war, found it impossible to re-establish himself, owing to the influx of medical men. Obtained some temporary work in this country, but contracted *x*-ray dermatitis, and is at present incapacitated. Children only

help to a very slight extent. Voted £10, with leave to apply again if necessary in six months' time.

Widow, aged 70, of M.R.C.S. Supported herself for several years by acting as companion, but finds it increasingly difficult to obtain engagements. No income, no children. Relieved five times, £45. Voted £10.

Widow, aged 61, of L.F.P.S.Glasg. No income, no children. Receives a home from a friend in return for such services as she can render. Health indifferent. Relieved once, £12. Voted £12.

**Contributions may be sent to the Honorary Treasurer, Dr. Samuel West, 15, Wimpole Street, London, W.**

## PROGRESS OF CREMATION.

DURING 1909 the movement in favour of the disposal of the dead by cremation has continued to make slow but steady progress. The number of cremations carried out in Great Britain was 855, an advance of 60 as compared with 1908. The grand total since the opening of the Woking Crematorium in 1885 to the end of 1909 was 8,121. The table given below shows the distribution of the cremations among the places devoted to the purpose in various parts of England. For most of the information here given we are indebted to the courtesy of Mr. H. T. Herring, M.B., Medical Referee to the London Cremation Company.

*The Cremation Society of England.*

The Cremation Society of England has been very active in its propaganda work, and that people are becoming more interested in the subject is shown by the fact that its energetic Secretary, Mr. G. A. Noble, has answered some hundreds of inquiries about cremation, from the construction of furnaces and the foundations of a crematorium to the most delicate legal points. The society has distributed 10,000 pamphlets; it has issued 10,000 copies of *Cremation in Great Britain*,[1] three-fourths of which have already been disposed of. This pamphlet, which is excellently printed and neatly "got up," contains a brief history of the cremation movement, a description of British crematories, illustrated with numerous views, particulars as to cost, full information as to the law bearing on cremation, and general instructions as to the formalities to be observed, together with the text of the Cremation Act of 1902, and the regulations made by the Home Secretary dated March 31st, 1903. The pamphlet in short is a summary of everything relating to the subject and a practical guide to those who may wish to have their remains cremated, and to surviving friends and executors whose duty it might be to carry their wishes into effect. In the pamphlet the advantages of cremation are briefly summed up, and the opinions on the subject expressed by many well-known persons are collected. The society has also lent magic lantern slides illustrating the working of crematories to lecturers; this it is always pleased to do. Seven thousand people have visited the crematories at Woking and Golder's Green. The membership of the society goes on increasing, and it is hoped that the increase will be maintained and that the society's field of action will be steadily enlarged.

Among the signs that the movement is spreading, mention may be made of the fact that at a meeting of the South-Western Centre of the Sanitary Inspectors' Association, held on February 12th at the Bristol Restaurant, Mr. T. J. Crofts of Bristol read a paper on The Sanitary Advantages of Cremation. After pointing out the dangers and disadvantages of burial, he said it might be taken for granted that cremation had come to stay, for there was a large and increasing section of the public who had a definite and unmistakable preference for that method of disposing of the dead. The demand for cremation existed, and it was right that in large centres facilities for it should be provided. The number of crematories in the country at present is thirteen, five of which are owned by municipal bodies, authorized by the Cremation Act of 1902, while the remaining eight are under the control of private companies.

*The Scottish Societies.*

Quite recently, as stated in the JOURNAL of February 12th, a cremation society has been formed at Edinburgh. The inaugural meeting was held on February 3rd, under the presidency of the Lord Provost. The object of the society is to promote the practice of cremation and burial reform by means of meetings, lectures, publications, or otherwise. The minimum subscription for members is 2s. 6d. annually. There are about 180 names on the membership roll of persons who are in sympathy with the formation of the society and with cremation. The president is Sir Henry Littlejohn; the vice-presidents, Sir Alexander R. Simpson, Lady Constance Lytton, Lady Steel, Professor Thomas Hudson Beare, M.Inst.C.E., and Dr. T. S. Clouston and Professor Harvey Littlejohn. An executive council, among the members of which are the Rev. George Christie, B.D., the Rev. William Main, and Drs. Claude B. Ker, Burn-Murdoch, Aitchison Robertson, and William Robertson. Mr. J. Dan Easson, B.L., is the secretary and treasurer. The ultimate object of the promoters is to have a crematorium erected in the city, but in the meantime the purpose of the society is to popularize and interest the public in the movement. Subsequently pressure will be brought to bear on the Town Council to induce them to erect a crematorium. Should the society fail to induce the Town Council to do this, the question of floating a company on the lines of the Scottish Burial Reform and Cremation Society, Glasgow, will, it is said, probably be considered.

The Scottish Burial Reform and Cremation Society, Limited, has been in existence for a good many years. A

[1] Published by the Cremation Society of England, 324, Regent Street, London, W. Price 6d.

*Table of Cremations Carried out in Great Britain since the Opening of Woking Crematorium in 1885.*

| | 1885. | 1886. | 1887. | 1888. | 1889. | 1890. | 1891. | 1892. | 1893. | 1894. | 1895. | 1896. | 1897. | 1898. | 1899. | 1900. | 1901. | 1902. | 1903. | 1904. | 1905. | 1906. | 1907. | 1908. | 1909. | Total. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Woking ... | 3 | 10 | 13 | 28 | 46 | 54 | 99 | 104 | 101 | 125 | 150 | 137 | 173 | 240 | 240 | 301 | 273 | 275 | *143 | 138 | 95 | 140 | 108 | 119 | **105** | **3.220** |
| Manchester ... | ... | ... | ... | ... | ... | ... | ... | 3 | 30 | 47 | 58 | 52 | 51 | 62 | 88 | 83 | 96 | 81 | 92 | 98 | 97 | 90 | 98 | 116 | **106** | **1.348** |
| Glasgow ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | 10 | 16 | 12 | 16 | 20 | 18 | 20 | 24 | 19 | 35 | 44 | 30 | 28 | **30** | **323** |
| Liverpool ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 2 | 10 | 27 | 23 | 40 | 40 | 54 | 35 | 40 | 35 | 46 | 34 | 32 | **46** | **464** |
| Hull ... ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 17 | 13 | 18 | 20 | 15 | 17 | 29 | 37 | **15** | **181** |
| Darlington ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | | 1 | 7 | 4 | 13 | 8 | 6 | **9** | **51** |
| Golder's Green | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 5 | 158 | 220 | 252 | 298 | 290 | 364 | **421** | **2.008** |
| Leicester ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | 5 | 8 | 16 | 12 | 12 | 14 | **19** | **87** |
| Birmingham... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | 19 | 22 | 25 | 33 | 18 | **30** | **148** |
| Leeds ... ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 16 | 15 | 16 | 24 | **19** | **90** |
| Ilford ... ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 9 | 23 | 18 | 19 | **24** | **93** |
| Bradford ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | 14 | 13 | 6 | **13** | **47** |
| Sheffield ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 7 | 6 | 18 | 12 | **18** | **61** |
| Total... ... | 3 | 10 | 13 | 28 | 46 | 54 | 99 | 107 | 131 | 172 | 209 | 201 | 250 | 341 | 367 | 444 | 445 | 451 | 477 | 569 | 604 | 743 | 707 | 795 | **855** | **8.121** |

* Golder's Green Crematorium in operation.

crematory and chapel were opened within the beautiful grounds of the Western Necropolis of Glasgow, at Maryhill, in 1895, by Sir Charles Cameron, who, together with the Right Hon. Robert Farquharson, is honorary president of the society. Among the directors are Professor Sir Henry D. Littlejohn, M.D., Professor John Glaister, and Drs. E. Duncan and Johnstone Macfie. At the annual meeting of the society held recently, Dr. Ebenezer Duncan, who presided, in moving the adoption of the annual report, pointed out that it was more favourable than that of last year. He went on to say that there was also evidence all over the country of an increased interest in the movement, and of a greater number of persons taking advantage of this method of disposing of their dead. One reason why progress was somewhat slow was that the corporations had not yet taken advantage of this method for the disposal of unclaimed bodies and the bodies from their parochial institutions. The method adopted in these cases was burial in common ground or pit burial. What that meant was well exemplified by a discussion which had taken place in the Irish newspapers during the past year with regard to the terrible methods in vogue in Glasnevin Cemetery, Dublin. There, on May 28th, a number of spectators standing at a pit burial, saw the bodies of ten men and women introduced into one yawning hole without the religious service of any church, seven of the deceased being Protestant and three Catholics. People in Ireland were horrified on learning of the prevalence of pit burials in the cemeteries there, but in Glasgow they for many years had been aware of the fact that even greater horrors had been perpetrated in their own graveyards. He could say without hesitation, after perusing the report published subsequent to the Government inspection of 1900, that in Glasgow, from Dalbeth to Craigton, there was not a cemetery in which any common ground did not contain as many bodies, and sometimes more, than were interred at the present time in Glasnevin Cemetery. It was quite a common thing in many cemeteries, after a number of years had elapsed, to take up the bodies and convey them elsewhere and use the ground again. That was done over and over again, particularly in common ground. The condition of matters in their city graveyards was now a scandal to the community. Their society had drawn the attention of the authorities to the necessity of legalizing the interment of cremated remains in closed cemeteries, as they thought there could be no objection to urns containing remains being interred. They hoped to get an Act which would enable the authorities to make an order to that effect.

As showing the horrors of pit burial, which, after all, is only the concentration in a small place of the processes of decomposition which go on in all systems of burial, we may recall one or two passages in a paper by Lord Lister on the Effects of the Antiseptic System of Treatment upon the Salubrity of a Surgical Hospital. This appeared in the *Lancet* (vol. i, 1870, pp. 4, 40), and has been republished in the *Collected Papers of Joseph, Baron Lister* (vol. ii, p. 124). Speaking of an outbreak of septic fever in his wards in the Surgical Hospital, Glasgow, he says:

"A crisis of this kind occurred rather more than two years ago in the other male accident ward on the ground floor, separated from mine merely by a passage 12 ft. broad, where the mortality became so excessive as to lead, not only to closing the ward, but to an investigation into the cause of the evil, which was presumed to be some foul drain. An excavation made with this view disclosed a state of things which seemed to explain sufficiently the unhealthiness that had so long remained a mystery. A few inches below the surface of the ground, on a level with the floors of the two lowest male accident wards, with only the basement area, 4 ft. wide, intervening, was found the uppermost tier of a multitude of coffins, which had been placed there at the time of the cholera epidemic of 1849, the corpses having undergone so little change in the interval that the clothes they had on at the time of their hurried burial were plainly distinguishable. The wonder now was, not that these wards upon the ground floor had been unhealthy, but that they had not been absolutely pestilential." Referring to the situation of the Surgical Hospital, he goes on to say: "Besides having along one of its sides the place of sepulture above alluded to, one end of the building is conterminous with the old Cathedral churchyard, which is one of large size and much used, and in which the system of 'pit burial' of paupers has hitherto prevailed. I saw one of the pits some time since, having been requested to report upon it by one of the civic authorities who is also a manager of the infirmary, and who, having accidentally discovered what was going on, at once took steps to prevent for the future the occurrence of anything so disgraceful. The pit, which was standing open for the reception of the next corpse, emitted a horrid stench on the removal of some loose boards from its mouth. Its walls were formed, on three sides, of coffins piled one upon another in four tiers, with the lateral interstices between them filled with human bones, the coffins reaching up to within a few inches of the surface of the ground. This was in a place immediately adjoining the patients' airing ground, and a few yards only from the windows of the surgical wards. And the pit which I inspected seems to have been only one of many similar receptacles, for the *Lancet* of September 25th contains a statement, copied from one of the Glasgow newspapers, that 'the Dean of Guild is said to have computed that 5,000 bodies were lying in pits, holding 80 each, in a state of decomposition, around the infirmary.'"

## Cremation in Foreign Countries.

### *France.*

According to the latest reports obtainable, the number of bodies cremated in France during 1908 was 6,568. In 403 of these cases the cremation was performed at the request of relatives of the deceased persons; the rest of the number is made up of 2,653 bodies from the hospitals and fragments from the dissecting rooms, and 3,512 still-born children. Up to the end of 1909 more than 94,000 bodies were cremated at the Père Lachaise Cemetery, Paris, since the establishment of the furnace there in 1889. Early in 1909 the Society for the Promotion of Cremation, wishing to reduce the length of time required for the process of cremation and to improve the apparatus at present in use at Père Lachaise, offered prizes for the construction of a crematory to be worked by electricity or any other source of heat. The society invited constructors and inventors, both French and foreign, to take part in the competition, the prizes of which will amount to £100. The awards will be made in the course of the present month. The City of Paris has agreed to contribute £40 towards these prizes. There are also crematories in operation at Rouen, Rheims, Lyons, and Marseilles, but they are mainly adjuncts to the municipal cemeteries. Bodies are buried in graves leased for ten years. At the expiration of that period they are dug up and cremated, and the vacated graves used for the next tenants.

### *Germany.*

In Germany there are now 19 crematories in operation. The following figures show the number of cremations carried out at each of them: Baden-Baden, 5; Bremen, 401; Chemnitz, 690; Coburg, 273; Eisenach, 100; Gotha, 639; Hamburg, 587; Heidelberg, 106; Heilbronn. 42; Jena, 315; Karlsruhe, 142; Mainz, 353; Mannheim, 166; Offenbach, 223; Possneck, 56; Stuttgart, 297; Ulm, 275; Zittau, 89; Zariban, 20. This gives a total for 1909 of 4,779, being an increase of 729 as compared with the previous year. In 1908 there was an increase of 36 per cent., the total being 4,050, as against 2,977 in 1907. The total number of cremations carried out in Germany up to the end of 1909 amounts to 23,000. The great strides made in Germany are mainly due to the activity of the Feuerbestattung Vereins, which has its head quarters in Berlin; its eighty-four branches extend over all parts of the German Empire, and the fortnightly journal, *Die Flamme*, keeps the supporters and members in close touch with the central organization.

### *Belgium.*

Cremation is not at present legalized in Belgium, but there is a rapidly increasing movement in favour of its adoption. A monthly journal, *La Crémation*, devotes itself to the propagation of the method, and with a view to its introduction into the country, the Society for the Propagation of Cremation in Belgium is arranging for an International Congress to be held in Brussels during September, 1910. The Honorary Presidents of the Society are MM. E. Goblet d'Alviella, Member of the Senate; Paul Janson, of the Chamber of Representatives; Ernest

Solvay, formerly a member of the Senate. Prominent members of the various European cremation societies and influential public men in Belgium form the organizing committee, and also many distinguished persons have expressed their willingness to be patrons of the Congress. Great Britain will be represented by the Duke of Bedford, Sir Herbert Thompson, and Sir Charles Cameron, who is also a member of the organizing committee.

*Italy.*

Italy was one of the first countries in which cremation was adopted as a means of disposing of the bodies of the dead. The pioneer was Brunetti, whose first attempts were made at Padua in 1873. Unfortunately the movement was initiated and has been carried on by the anti-clerical party, and has thus acquired a sectarian significance which is a serious obstacle to the progress of the movement. It seems not unlikely, in fact, that, owing mainly to this cause, Italy may fall behind Germany and other countries where cremation was introduced at a much later time. There are crematories at Alessandria, Asti, Bologna, Bra, Brescia, Como, Cremona, Florence, Genoa, Livorno, Lodi, Mantua, Milan, Modena, Novara, Padua, Perugia, Pisa, Pistoia, Rome, San Remo, Siena, Spezia, Turin, Udine, Varese, Venice, and Verona. The total number of incinerations in Italy up to the end of 1906 was 6,251.

*Switzerland.*

In Switzerland there are crematories at Basel (established in 1898), Zurich (1889), Geneva (1902), St. Gall (1903), and Bern (1908). The total number of cremations up to the end of 1908 is reported as 4,227, distributed as follows: Basel, 403; Bern, 15; Geneva, 696; St. Gall, 484; Zurich, 2,629. For the year 1908 alone the figures given are as follows: Basel, 77; Bern, 15; Geneva, 152; St. Gall, 139; Zurich, 382.

*Australia.*

A cremation society was established some time ago in Sydney, with the Hon. Dr. Creed, M.L.C., as president. He has addressed a letter to the Hon. C. G. Wade, the State Premier, setting forth the various arguments in favour of the adoption of this practice. No reply to this communication having been received from the Government, the society held a meeting in November, 1909, at which it was decided once more, as stated in the BRITISH MEDICAL JOURNAL of January 29th, 1910, to urge the subject of cremation on the attention of the Government. The following resolutions were passed:

That, in view of the repeated recommendations of the Board of Health, and in view of the expressed opinions of the medical profession and municipal councils, we again respectfully urge on the Premier the necessity of placing on this year's Estimates a sum of money for the erection of a crematorium.

That it is unnecessary to await new legislation, as under the amended Health Act such regulations may be created and enforced by the Governor and Executive Council.

In Australia the Cremation Society of New South Wales is doing much to arouse public sentiment in favour of cremation as a preliminary to the establishment of a crematorium. The only crematorium in Australia at present is the one established at Adelaide by the Government in 1903. At the quarterly meeting of the society in May, 1909, the report stated that 81 new members had joined during the quarter. The finances were satisfactory. A letter had been written to the Board of Health with the object of securing a resolution in support of cremation, to which the following reply had been received from the secretary of that department:

I am directed to inform you that the Board of Health has frequently testified its anxiety to secure such measure of burial reform as consists in provision of properly-appointed crematoria for the voluntary use of those members of the community who think, with the board, that burning of the corpse, together with reverent collection and preservation of the ashes, is on all grounds far preferable to the present more general practice of burial. I am desired to point out to you that Part 4, Section 51, of the Public Health Act was introduced at the instance of the board as far back as 1896; it empowers local authorities under the Act (that is to say, municipal and shire councils, as well as the trustees of any burial ground or cemetery) to erect and maintain crematories for the burning of the dead, and to inform you that on several occasions since that date the board has urged the Government to take steps to provide at least one crematorium, the need for which during epidemics has been keenly felt by it.

It was further stated that a great many replies from medical men had been received to the society's circulars, all of which were distinctly favourable to the aims of the society.

*New Zealand.*

The crematorium established by the City Corporation of Wellington is now completed, and the practical result of this enterprise is being followed with interest by the corporation of the sister city of Auckland, previous to accepting the offer of the Auckland Cremation Society to subscribe £500 towards the cost of providing a municipal crematorium.

*United States and Canada.*

Mr. Noble informs us that there is no central body in the United States corresponding to the Cremation Society of England; hence it is not easy to get exact statistics. The following figures show the total number of cremations in various places up to 1905: Baltimore, Maryland, 263; Boston, Massachusetts, 2,106; Buffalo, New York, 787; Cambridge, Massachusetts, 819; Chicago, Illinois, 1,744; Cincinnati, Ohio, 1,067; Cleveland, Ohio, 283; Davenport, Iowa, 287; Denver, Colorado, 109; Detroit, Michigan, 689; Fort Wayne, Indiana, 34; Indianapolis, Indiana, 32; Lancaster, Pennsylvania, 106; Los Angeles, California I, 863; Los Angeles, California II, 413; Milwaukee, Wisconsin, 442; New York, New York State, 7,610; Oakland, California, 1,279; Pasadena, California, 371; Philadelphia, Pennsylvania, 1,640; Pittsburgh, Pennsylvania, 323; Portland, Oregon, 327; San Francisco I, California, 1,492; San Francisco II, California, 5,352; Seattle, Washington, D.C., 21; St. Louis, Missouri, 1,846; St. Paul, Minnesota, 145; Swinburne Island, New York, 123; Troy, New York, 249; Washington, Pennsylvania, 41; Washington, D.C., 275; Waterville, New York, 60; Montreal, Canada, 44. The total number of cremations was therefore 31,242. A crematorium was also opened at Linden, New Jersey, in 1908; and at Honolulu, Hawaii Islands.

*South America.*

It is stated that there are crematories at Buenos Aires and Montevideo, South America.

## SCIENCE NOTES.

A PAPER on "A Theory of the Alternation of Generations in the Archegoniate Plants Based upon the Ontogeny,"[1] by Dr. W. H. Lang, has given rise to some discussion. The author recapitulated his views at a meeting of the Linnean Society, and the discussion made it evident that Dr. Lang's hypothesis, ingenious and simple as it may appear, does not meet with universal approval. The essence of the theory is an attempt to explain the alternation of spore-bearing and gamete-producing generations in plants such as ferns and liverworts by a consideration of the environmental conditions attendant upon the various stages of the plant's individual existence. Previous theories, of which there were not a few, had sought an explanation in phylogeny. It is impossible in a few words to give an adequate idea of the standpoint arrived at in these theories, but it may be sufficient for the present purpose to indicate that the spore-bearing generation might be regarded either as an interpolated phase in the life-history of the organism, having its origin in post-sexual complications, or as a homologue of the sexual generation which had undergone modifications to meet peculiar circumstances. In either case, however, the life-cycle is regarded as a homogeneous whole, the individual stages of which impress the growth character upon the succeeding ones. Dr. Lang, on the other hand, considers the spore and the zygote, or fertilized egg cell, as equivalent germ cells; that is to say, that they both possess the same potentiality of development. The factor determining the different courses which their development takes is the environment. The spore is shed on the ground and germinates there freely exposed. The zygote is securely enclosed in the archegonium, nourished by the prothallus, and develops without any direct connexion with the external world. This is, in short, the main consideration which has led to the formulation of Dr. Lang's hypothesis. At the meeting of the Linnean Society, Professor Bower remarked that

[1] *New Phytologist*, viii (1909), pp. 1-12.

Dr. Lang did not probe into the ultimate origin of the two phases of the life-cycle, but dealt with them as already established. Dr. Dukinfield Scott maintained that Dr. Lang's theory did not supersede the older homologous theory any more than natural selection could be said to supersede evolution, and that the former owed its point to the assumption that the latter was true. He thought, however, it was valuable just in so far as it helped to explain the great difference between the two generations. In a more recent paper,[1] on the same subject, Professor Blackman has stated his difficulty in accepting Dr. Lang's theory. He is unable to admit that the different physiological conditions are sufficient to account for the difference between the gametophyte and the sporophyte. According to his view, the various stages in the life-cycle of a given organism, however complicated, are united together by a cyclical correlation, one stage influencing the development of the other. He instances the case of *Puccinia graminis*, in which there are four different kinds of germ cells—teleutospore, sporidia, aecidiospores, and uredospores. If all four are placed on a barberry leaf, the first will form, not an ordinary germ tube, but a special promycelium. The other three will form germ tubes, but only that from the sporidium will penetrate the leaf. Thus, although all these germ cells are placed under the same physiological conditions, each produces the special phase which it is its function to produce. Further illustration may—and, if any comprehensive theory of alternation is to be proposed, must—be drawn from the metamorphosis of insects and other animals. In insects we find that the change from the larva to the pupa and thence to the imago may take place under unchanged external conditions. It would seem also that we have direct evidence that the spore and egg are different, for even before the spore leaves the sporangium it has clearly started on a different line of development from that of the egg. While both remain protected and supplied with nourishment, the spore surrounds itself with a thick two-layered wall, and stores up a certain amount of reserve material, while the wall of the egg remains thin, and no material is stored up. The two cells have clearly become adapted to start life under different environments, and this difference of structure, developed while the cells are under similar conditions, cannot easily be explained, unless we assume internal differences. Professor Blackman makes reference to the parasitic protozoa, pointing out that various stages of the life-cycle may be found in the blood at any one time, but, on being sucked up by a mosquito, only the "crescents" can proceed to further development. There comes a time, too, when another type of cell—the sporozoite—is produced, and this can undergo further development only when retransferred to the blood. Here, again, is an instance of cyclical correlation, each stage giving rise only to that which naturally follows it in the life-cycle. Little help is to be hoped from the results of experimental work on this problem, for the technical difficulties would be great; and, even if successfully overcome, the interpretation would be liable to much ambiguity. It is evident, then, that Dr. Lang's hypothesis, although it can hardly be regarded as a solution, will have been of importance in stimulating inquiry along fresh lines, and in arousing anew interest in what has hitherto been a baffling problem.

In a recent number of *Nature*[2] there is a valuable summary of the advances which have been made within the past few years on the telegraphic transmission of pictures. Though most people are probably familiar with the fact that photographs can now be transmitted over considerable distances by means of an apparatus resembling the telegraph, it is quite possible that our idea of the exact process by which this is accomplished is not very distinct. As has been the case with so many discoveries and inventions of this kind, once even a remote prospect of practicability is apparent, modifications and improvements begin to be suggested and are taken up with almost bewildering rapidity, so that it becomes difficult for those not technically interested to form a just opinion on the state of matters at any particular time. Mr. Thorne-Baker, who has done much work on the subject himself, practically finds it necessary to describe only three types of apparatus. The earliest depended in the main on the sensitiveness to light of the element selenium in a modified form. This was distributed over two coils of platinum wire, wound on a plate of steatite to form a "selenium cell." Light was made to pass through a revolving photographic film and fall on the selenium with intensity varying inversely as the density of the part of the photograph through which it passed. An electric current sent through the selenium cell passed into a string galvanometer at the receiving station. To this was attached a small shutter, which was placed in the path of light directed on to a photographic plate. The shutter actuated by the current passing through the galvanometer cut off amounts of light from the photographic plate proportionate to the strength of current received from the selenium cell and so the photograph was made. Mr. Thorne-Baker points out that the disadvantage of this system is that the current is necessarily very small, and if there is any considerable leakage the shutter is not deflected sufficiently. In Korn's telautograph a copy of the photograph is made with insulating ink on a piece of copper foil, and this is attached to a revolving drum over which a steel stylus is moved laterally. At the receiving station a photographic film is wound on a corresponding drum enclosed in a dark box with a small slit. Light is made to fall on this slit, and, as in the first apparatus, a galvanometer is interposed in the path with, in this case, a silver wire. When no current passes—that is, when the stylus comes to an insulating line of ink—the shadow of this wire falls directly on the slit in the box, and so no light reaches the photographic film. When, however, the stylus is in contact with the copper foil, current passes and deflects the wire, thus allowing light to fall on the film. The telectrograph, which is the third and most recent form, depends on an entirely different principle. Here the original photograph is printed upon lead sheet and fixed to a drum. The stylus in this case is iridium tipped. At the receiver the current flows into two wires which are in contact with two platinum pins, and these lead the current to the receiving drum. The latter is covered with absorbent paper moistened with a chemical. A stylus moving over this drum causes electrolysis of the chemical when the current is passed, and so produces a black mark on the paper. A photograph transmitted in this simple fashion, however, would be unrecognizably blurred owing to the secondary discharges due to the line, and to obviate this it is necessary to introduce a "balance." This consists of two secondary cells shunted on to the line and sending a reverse current into it. By observing the character of the image on the receiving drum during the first few revolutions the line effects can be immediately counteracted by regulation. The possibility of wireless transmission is referred to, but a difficulty pointed out in that the impulses have to be sent through too rapidly in a short space of time.

The possibility of maintaining nutrition upon a diet in which inorganic compounds of phosphorus are substituted for the more complex natural compounds has been the subject of much apparently contradictory experiment. As the result of some recent attempts with rats, McCollum[3] has come to the following conclusions: Palatability is a most important factor; without it the diet may possess all the necessary food ingredients and yet fail to nourish properly. This probably accounts for the failure of previous attempts to maintain animals on mixtures of pure proximate constituents of various foodstuffs. With attention to changing the character and flavour of such simple mixtures an appreciable amount of growth can be induced. Palatability is not so essential in the case of very young animals, for they appear to be able to adapt themselves to a monotonously uninviting diet much more readily than adults. Other conditions being satisfactory, all the phosphorus required by an animal for skeleton, nuclein, or phosphatide formation can be derived from inorganic phosphates. An animal also has the power to synthesize the purin bases necessary for its nuclein formation from some complexes contained in the protein molecule, and does not necessarily use purin bases of exogenous origin for this purpose.

[1] *New Phytologist*, viii (1909), pp. 207–218.
[2] Vol. 82, pp. 309–311.
[3] Nuclein Synthesis in the Animal Body, *American Journal of Physiology*, xxv, 1909, pp. 120–141.

## LITERARY NOTES.

In an article entitled "Friends and Acquaintances," by Mr. William H. Rideing, which appears in the *Cornhill* for March, the following story is told of James Payn, the well-known novelist, who was for many years editor of that magazine:

One day an unannounced caller, who had managed to evade the porter downstairs, opened Payn's door. His hair was long and his clothes were shabby and untidy. He had a roll of papers in his hand. Payn, surmising a poet and an epic several thousand lines long, looked up.

"Well, sir?"

"I've brought you something about Sarcoma and Carcinoma."

"We are overcrowded with poetry—couldn't accept another line, not if it were by Milton."

"Poetry!" the caller flashed. "Do you know anything about Sarcoma and Carcinoma?"

"Italian lovers, aren't they?" said Payn imperturbably.

The caller retreated with a withering glance at the editor. Under the same roof as the *Cornhill* was the office of a medical and surgical journal, and it was this that the caller sought for the disposal of a treatise on these cancerous growths with the euphonious names, which, with a layman's ignorance, Payn ascribed to poetry.

In a reprint from the *Caledonian Medical Journal*, Colonel Kenneth Macleod gives an interesting appreciation of Professor Thomas Laycock, of Edinburgh, who was one of his teachers. Colonel Macleod was clerk and afterwards assistant to the distinguished physician. He describes Laycock as a man of middle height and slender make.

His features were finely modelled and his face decidedly classical; his expression was mild and manner quiet; his temper was amiable and disposition urbane and kindly. As a husband, father, and friend he was exemplary and estimable. His personality was eminently attractive. He was hospitable and genial, full of information, and filled with wide interests and keen sympathies. His intellectual faculties were of a high order. He was observant and reflective, and whatever came under his notice was made the subject of earnest thought. He was prone to abstraction and generalization, and his mind was well stored with well-ordered facts and principles. He was a great reader, and endowed with strong powers of mental assimilation and digestion. His memory was good, and recollection ready. He was fluent without being forcible in speech, and was a facile and prolific writer. His handwriting was neat and nervous. Whatever his theme he arranged his material logically, and marshalled his facts and deductions in a clear and coherent fashion. He was by no means devoid of the sense of "ego," which, according to him, is a fundamental element of human life and thought; was tenacious of his opinions, self-respecting and dignified, and mindful of the honour of his profession and position.

Laycock was not altogether successful in practice in Edinburgh; one gathers that, being a Yorkshireman, he was regarded by the indigenous doctors as an intruder. His lectures were prepared with great care and an elaborate synopsis of each was written on the blackboard. He founded his teaching on the doctrine of temperaments, holding that as men were different from each other racially and individually, owing to climatic and other influencing peculiarities of feature, form, and function, which were transmitted and apt to be intensified in transmission, so they differed in pathological proclivities, which corresponded with their varied temperaments and diatheses, and were capable of being classified. The detection of these proclivities was accomplished by noting external signs proper to each class by physiognomical diagnosis. His views on this subject were briefly stated in his work on *Mind and Brain* (vol. ii, part v, chap. xii, p. 306), and set forth in greater detail in a series of papers published in the *Medical Times and Gazette* (vol. i, 1862). In the wards Laycock was interesting and instructive. He was strong in physiognomical diagnosis, and frequently ventured on a positive opinion regarding the nature of a case before the history was read or the systematic examination made. In these "snapshot" diagnoses he was often right. Laycock's contributions to medical literature are said to have numbered three hundred. In the early days of his professional life he wrote reviews and articles for the *British and Foreign Medical Review*, edited up to 1848 by Sir John Forbes, who highly appreciated his ability. In 1838 and 1839 he published in the *Edinburgh Medical and Surgical Journal* an important series of papers on the Nervous Diseases of Women, which were reprinted, with additions, in the form of a book in 1840. In this work he drew attention to the influence of morbid organic conditions on mental manifestations, and propounded the novel doctrine of reflex cerebration. He showed that processes of thought could be generated and give rise to actions without consciousness. He applied this discovery to the explanation of a large class of morbid mental manifestations, in which, mainly as a result of stimulated and excited attention and suggestion, strange and hitherto inexplicable mental phenomena took place without knowledge or rational control on the part of their subject. Dreaming, somnambulism, mesmerism, hysteria, and some forms of insanity, were attributed to disordered nervous conditions arising from organic influences. On these and cognate subjects he published numerous papers, the most important being a discourse on the Reflex Function of the Brain, read at a meeting of the British Association held at York in 1844, and subsequently published in the *British and Foreign Medical Review* in 1845. In the same year he wrote in the *Lancet* on "the law of design as an effective force in nature," formulated "the law of reflex nutrition," and expounded "the origin of varieties and species." His great work was *Mind and Brain, or the Correlations of Consciousness and Organization*, which was published at Edinburgh in 1860. He was also the author of *Lectures on the Principles and Methods of Medical Observation and Research*, and of many papers on nervous and psychological subjects. Laycock was a philosopher as well as a physician. In the words of Colonel Macleod, Laycock assisted most materially in placing psychology on a more rational and scientific basis. He was the exponent of a revolution in psychology and philosophy which has continued to gain strength and stability.

Under the auspices of the Belfast Natural History and Philosophical Society, Mr. K. T. Frost, Lecturer on Classical Archaeology and Ancient History, Queen's University, recently delivered a lecture entitled "Sidelights on Bible History, with Personal Reminiscences from Palestine and Egypt." Sir John Byers, M.D., President of the society, who was in the chair, said archaeology afforded immense scope for study, because the lines along which it could be followed were so numerous. Some might investigate the matter along the direction of historical research by studying the language and literature of the past; others could look at the bearing which unwritten literature, as found in popular belief and folk lore, had on archaeology; while, again, physical characteristics (as shown by the comparison of various skulls) were of great importance, as well as such relics of extinct nations or communities as remains of art, architecture, inscriptions, monuments, implements, utensils, and weapons, in their bearing on archaic life. Philology, or the investigation of any language and literature in the light they cast upon the character, activity, and history of the human race, was also of the utmost value in its bearing upon archaeology. Ireland was full of many types of antiquities, such as ecclesiastical remains, round towers, cromlechs, forths (or raths), stone monuments, souterrains, cairns, flint implements, and ornaments, like the famous gold Celtic torque found near Limavady, and Ulster had produced a very able school of archaeologists. Among them was John Grattan, whose original work on the measurements of the skulls of human remains discovered within the round towers of Ulster was a marvel of scientific research in craniology.

Sir Henry Morris has called our attention to the following passage in the *Memoirs of the Duchess de Dino*, the niece of Talleyrand, for whom she acted as hostess when he was ambassador to this country. It gives us an interesting glimpse of Sir Henry Halford.

*London, May 4th, 1834.*—Koreff is a braggadocious creature with a vein of indiscreet curiosity which I have sometimes noticed on the Continent, and which here inspires me with the most profound distrust. His wit and his learning are lost among the bad features of his character, which often make him quite impossible. He lives on gossip of all kinds, public and private, and when he can get nothing else to talk about he talks about medicine. Then he assumes the physician and deifies his art. You hear of patients saved by him when all hope was gone; of his marvellous discoveries, of magnetism, homeopathy true and false, of things natural and supernatural, possible and impossible. Everything serves to magnify his importance, to surround the poor creature with an atmosphere of the marvellous, which covers his want of real dignity.

We had him to dinner with Sir Henry Halford, and I don't think they took to each other. What, indeed, could they have in common? Science, perhaps—if by science they both under-

stood the same thing. Sir Henry is a suave and polished person, measured, discreet, supple, and deferential; a perfect courtier, a man of fortune, highly respected, and a great practitioner. He has never sought to be anything to the great but their doctor, and consequently, without seeking it, he has found himself in all family and State secrets. Koreff, on the other hand, poses as a man of letters and a statesman, and has thus made persons in great places chary of having him as their doctor. This was how he came to grief at Berlin; he will find it difficult to regain his ground at Paris, and he won't, in my opinion, be a success in London.

David Ferdinand Koreff (1783–1851) was the son of a Jewish doctor of medicine. He was born at Breslau, and studied at Halle, Berlin, and Paris. He was baptized after entering the family of Hardenberg, the Prussian Chancellor. Subsequently he spent many years in this country.

# Nova et Vetera.

## ANATOMICAL DESCRIPTIONS IN SOUTHEY'S POETRY.

Anatomical descriptions are somewhat rare in modern poetry, and it is surprising to find in Southey's *Joan of Arc* passages which are reminiscent of the dissecting room rather than of the Parnassian slopes on which our nineteenth century poets were wont to recline. Here are some instances taken from that poem.

In the fighting round Orleans Conrade works wonders with his battle-axe:

> On Molyn's head,
> As at the Maid he aimed his javelin,
> Forceful it fell, and shiver'd with the blow
> The iron helm, and to his brain-pan drove
> The fragments.

At a later stage in the same fight another incident occurs which leads the poet to describe the arterialized blood's return from the lungs to the heart through the pulmonary veins:

> With wary bend, the foe
> Shrunk from the flying death; yet not in vain
> From that strong hand the fate-fraught weapon fled:
> Full on the corselet of a meaner man
> It fell, and pierced, there where the heaving lungs,
> With purer air distended to the heart
> Roll back their purged tide: from the deep wound
> The red blood gush'd: prone on the steps he fell,
> And in the strong convulsive grasp of death,
> Grasp'd his long pike.

Another soldier falls under a stroke which shivers his helm:

> From his eyes the blood
> Started; with blood the chambers of his brain
> Were fill'd; his breast-plate, with convulsive throes,
> Heaved as he fell.

Another receives an arrow wound in the neck, opening the trachea:

> Through the tube that the pure air inhales
> Pierced the keen shaft; blood down the unwonted way
> Gush'd to the lungs.

Yet another is struck by an arrow; it "fix'd Deep in his liver; blood and mingled gall Flow'd from the wound." Glacidas aims an arrow at the Maid but hits one of his own soldiers, apparently wounding the aorta:

> Through his ribs it pass'd,
> And cleft that vessel, whence the purer blood,
> Through many a branching channel, o'er the frame
> Meanders.

An Englishman is driven to the earth under a ponderous stone:

> Horror the spectators seiz'd,
> For as the dreadful weapon shivered him,
> His blood besprinkled round, and they beheld
> His mangled lungs lie quivering!

Finally, Conrade, one of the heroes of the battle, deals a blow in the region of the diaphragm:

> Conrade the next foe
> Smote where the heaving membrane separates
> The chambers of the trunk.

A study of the life of the poet Southey does not at first yield any explanation of his use of what must be regarded as distasteful references to anatomical details in his earliest epic poem. A scrutiny of the biographical table prefixed to the Oxford edition of Southey's *Poems* (1909) gives no hint of any special interest shown by him in medicine. It is true that he had a younger brother (born in 1783) who became a distinguished physician; this was Henry Herbert, who studied surgery at Norwich, entered the University of Edinburgh in 1803, and graduated M.D. there in June, 1806. But *Joan of Arc* was written by Robert long before his brother began the study of medicine. In Dr. Garnett's life of Southey in the *Dictionary of National Biography* we get an indication of the poet's attitude with regard to anatomy, but it is not such as we might have expected from the ostentatious exhibition of a knowledge of structural details given in the battle scenes of *Joan of Arc*. Speaking of Southey's disinclination to take Orders, Dr. Garnett says: "A doctor's career was equally impossible, owing to his repugnance to anatomical demonstration." Professor Dowden[1] gives further details of this reluctance to study anatomy. Southey apparently was drawn towards medicine, although not towards the dissecting room. In 1792, when he was 18, he had been expelled from Westminster School for his article on flogging in the school newspaper, *The Flagellant;* in the same year came the failure of his father in business, followed by his death just after his son had matriculated at Balliol College, Oxford; and in January of 1793 he entered into residence, his expenses being borne by his mother's brother, the Rev. Herbert Hill, Chaplain to the British Factory at Lisbon. His uncle wished him to become an English clergyman, but Southey felt he could not conscientiously do so. It is in this connexion that we get the missing explanation of the anatomical allusions of *Joan of Arc;* for Professor Dowden writes: "To bear the reproaches, gentle yet grave, of his uncle was hard; to grieve his mother was harder. Southey resolved to go to the anatomy school and fit himself to be a doctor. But he could not overcome his strong repugnance to the dissecting room; it expelled him whether he would or no." While he was in this undecided state of mind, in the year 1793, during the long vacation, he wrote the first rough draft of the twelve books which go to make *Joan of Arc* in the short space of six weeks; his nineteenth birthday (August 12th) came and went while he was thus engaged.

It can hardly be doubted that in these circumstances we have an explanation of the apparent anomaly of the intrusion of the facts of the dissecting room into epic poetry. Anatomy had evidently made a strong and lasting impression upon the young man's mind, and he was unable to exclude it even from his most inspired moods. Its introduction into a poem like *Joan of Arc* was undoubtedly an error of taste; but then it is admitted that *Joan of Arc* is not a good poem—a fact of which the author himself possibly was conscious, for he rewrote it at least three times. At any rate, Southey, although he could not stand the dissecting room, had no dislike for medicine itself; for, some forty years later in life, he chose for that strange literary offspring of his, that "glorified commonplace book" as it has been called, the title of *The Doctor*, and added to the gallery of notable medical men of fiction the figure of the genial Dr. Daniel Dove of Doncaster, with "his gravities and levities." Further, Robert Southey showed in a practical fashion his liking for medicine by helping his younger brother, Henry Herbert, to obtain his M.D. at Edinburgh. Here is a passage from Professor Dowden's *Life of Southey* relating an occurrence which reminds us of what another literary man (Thomas Carlyle) did for his medical student brother (John Aitkin Carlyle): "By *Joan* and the miscellaneous *Poems* of 1797 Southey had gained not far from a hundred and fifty pounds; he might fairly expect a hundred guineas for *Thalaba*. It would buy the furniture of his long-expected house. But he was concerned about the prospects of Harry, his younger brother; and now William Taylor wrote that some provincial surgeon of eminence would board and instruct the lad during four or five years for precisely a hundred guineas. 'A hundred guineas!' Southey exclaims. 'Well, but thank God there is *Thalaba* ready, for which I ask this sum.'" There can be little doubt that Robert Southey had a warm heart towards his doctor brother; but such a poem as *The Surgeon's Warning* makes us wonder whether his affection for the physicians of the profession extended to their surgical brethren.

[1] Southey, *English Men of Letters*, p. 34.

British Medical Journal.

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## CREMATION.

As will be seen from an article published elsewhere, the disposal of the bodies of the dead by burning continues to make progress. It might be wished, in the interest of the public health, that the progress were a little more rapid, but sanitarians may find room for satisfaction in the fact that it is steady. In Great Britain there were sixty more cremations in 1909 than in the previous year. Recently a society has been founded in Edinburgh to further the movement. In several of our colonies cremation has been introduced. In the United States, as to which we have no definite figures later than 1905, it is said to be making headway. In South America crematories have been established at Buenos Aires and Montevideo. In Germany, too, a large increase is reported, while in Belgium, where cremation is not yet recognized by law, a society has been formed to obtain its legalization, and to impress its advantages on the people. These signs, though still like the cloud no bigger than a man's hand, indicate a growing recognition of the advantages of cremation over earth burial. We need not here enlarge on these advantages from the sanitary point of view; our readers are already familiar with them, and we think we may say that they are generally admitted. Nor need we dwell on the economic argument, the ever-increasing space required for cemeteries, and the costliness of burial as compared with cremation Certain objections—prejudices we should call them—yet remain. The chief of these are the religious, the sentimental, and the juridical.

In an official sense the religious objection is now, we believe, confined to Roman Catholics and Jews. In the case of the former the objection is, as far as we understand the matter, disciplinary rather than doctrinal. The most recent writer on moral theology, H. Noldin, S.J., in his book which was published at Innsbruck in 1908, says: "Etsi crematio corporis humani *nec ulli veritati religionis Christianae contraria, nec intrinsecus mala sit* [the italics are ours], ex adjunctis tamen, in quibus recenti tempore promovetur, *per accidens* mala et propter ecclesiae prohibitionem graviter illicita est." Cremation, when it was introduced in Italy many years ago, was made an outward and visible sign of unbelief—a defiance which naturally brought down on the movement the fulminations of the Church. Cremation has no connexion with Freemasonry or any form of belief or unbelief in this country. If cremation were freed from the symbolic character thus impressed upon it in a spirit of needless defiance by the pioneers of the movement in Italy, it seems likely that the ecclesiastical ban under which it lies would be removed. Among the Jews cremation is forbidden by the law, as interpreted by the Orthodox Synagogue, and also by traditional custom. But many Jews have no objection to cremation, and we understand that it is practised among them, and that a religious service is sometimes read over the ashes of a cremated body. Many clergymen of the Church of England and other denominations are not opposed to cremation, and the remains of some well-known clergymen have been disposed of in this manner. Several bishops have expressed their approval of cremation. At the opening of the Birmingham crematory in 1903 Bishop Gore wrote: "What I should desire, when I do myself die, is that my body should be reduced rapidly to ashes, so that it may do no harm to the living, and then, in accordance with the Christian feeling, be laid in the earth—'Earth to earth, ashes to ashes, dust to dust'—with the rites of the Church. I do not see that there is any serious Christian argument against such a practice, and, from a sanitary point of view, it has enormous advantages." It is, indeed, difficult to see how any reasonable objection to cremation from a religious point of view can arise. The doctrine of the Resurrection cannot be held to present a serious obstacle, for without entering upon the discussion of theological mysteries, it is surely plain that the body can as easily be raised again from the dead whether its component elements have been scattered about as they must be in the final phase of decomposition, or destroyed by fire immediately after death. To those who believe that man was created out of nothing there can be no difficulty in the further belief that he can be created anew out of the elements which once formed the tenement of clay wherein dwelt his immortal soul. Cremation can be celebrated with all the funeral rites demanded by any form of religion. Moreover it would make it possible to revive the beautiful old custom of burial in churches.

With regard to the sentimental objection, while admitting that the sudden reduction of the body of a loved one to the handful of ashes which the Latin poet says is all that is left of the greatest general, is at first something of a shock, it does not need the imagination of Hamlet to convince thinking persons that cremation is far less horrible than burial. Cremation does in an hour or two what the natural processes of decomposition may take years to accomplish. To us it seems that the inevitable triumph of the grave is much lessened by dissociation from ideas of putrefaction. Tender memory of the dead is more likely to be maintained by the thought that there is no foulness or corruption, but only a small quantity of inoffensive ashes where the remains are buried. Before leaving the sentimental side of the question, we may be allowed to quote the testimony of Guy de Maupassant. That master of verbal artistry, in his striking sketch entitled "Le Bûcher," which appeared in the Paris *Figaro* in 1884, gives an account of the cremation of an Indian prince on the beach at Etretat of which he was an accidental witness. After describing the scene he says: "I have therefore seen a man burnt on a funeral pyre, and that has given me the desire to disappear in the same manner. In this way everything is finished at once. Man hastens the slow work of Nature, instead of retarding it by the hideous coffin in which he rots for months. The flesh is dead, the spirit has fled. The fire that purifies disperses in a few hours that which was a human being and throws it to the wind. It makes of it air and ash instead of loathsome corruption. This is clean and wholesome. Putrefaction underground in that closed box wherein the body changes into a black and stinking pulp is repulsive and abominable. The coffin which descends into that muddy hole grips the heart with anguish,

but the pyre which flames under the open sky has about it something great, beautiful and solemn."

It is obvious that cremation, if it is to be carried out on a large scale, could not be done in the way described by Maupassant. Although we must dispense with the open sky, there is the advantage that, as actually carried out, there is nothing revolting about cremation. Having witnessed the process in its minutest details at Golder's Green, we can testify that nothing could be more cleanly and more reverent than the way in which the remains are treated. As showing how cremation appeals to the enlightened mind, we may quote, as one of the most recent testimonies to the same effect, the following clause from the will of the late Mr. W. P. Frith, R.A.: "Believing that the duty of the individual to his kind includes providing for such final disposal of his body as shall be least detrimental to those who survive him, and believing that the modern process of incineration provides the quickest and safest mode of such disposal, I hereby solemnly express to my survivors and executor my earnest desire and request that on my decease my body shall be cremated at such convenient place as shall furnish the proper facilities."

What we have called the juridical objection, based on the possible destruction of traces of crime, is more serious than the others. Every possible precaution has therefore been taken to meet this objection. With the safeguards provided by the Act of 1902 and the Home Secretary's regulations of 1903, and the elaborate official machinery which has to be put in operation before cremation is sanctioned by the authorities, there is less danger of crime remaining undiscovered than under the existing lax system of death certification. During the past year cremation was refused in at least two well-known cases, either because the cause of death was not ascertained, or on account of some other irregularity. It may be added that the precautions insisted upon, as well as the process itself, prevent the possibility of live burial—a danger which, though in our opinion largely imaginary, still darkens many a life with the shadow of a great fear. Medical practitioners, as they become familiar with the regulations, fill up the forms more accurately than before; and it is satisfactory to learn that the profession as a whole is beginning to show more active interest in the movement. Their interest may be quickened by the reflection that the careful medical certification insisted upon must, as cremation comes into more general use, tend to the repression of illegal practice.

In summing up the subject it may not be out of place to recall that one of the earliest pioneers of cremation in England was Miss Honoretta Pratt. She was related to the Hon. John Pratt, sometime Treasurer of Ireland. She died in 1769, and on a tablet erected to her memory in the graveyard of St. George's, Hanover Square, may be read the following inscription: "This worthy woman, believing that the vapours arising from the graves in the churchyards of populous citys may prove harmful to the inhabitants, and resolving to extend to future times, as far as she was able, that Charity and Benevolence which distinguished her thro' life, ordered that her body should be burnt, in the hope that others would follow her example, a thing too hastily censured by those who did not enquire her motives." As far as we know, although cremation was advocated by Sir Henry Thompson in 1874, Miss Honoretta Pratt's wish that her example should be followed was not fulfilled till 1882, when the bodies of Lady Hanham and her daughter-in-law, Mrs. Hanham, were burnt. If we may paraphrase the famous words of Latimer to Ridley, those ladies lit a beacon fire that day which we hope will in time shine over all the country.

## MENDELISM AND SEX

THERE is a natural tendency amongst the exponents of any new theory to exploit it to the full. With a firm faith in its ultimate truth, the enthusiast ruthlessly breaks down seemingly impassable barriers, and fashions filmy hypotheses wherewith to bridge unfathomable gaps. This has occurred in the history of all great discoveries, and it is only after much laborious investigation that the true significance of the obstacles is made clear, and rational and substantial methods of surmounting them are provided. It is hardly accurate to refer to the Mendelian theory as new; it is not a thing of yesterday, yet its resuscitation dates from a comparatively recent year. Its importance is vouched for by the effect which it has had on present biological thought, and by the far-reaching consequences which it involves. It is probably of no less moment than Darwin's theory of natural selection; the immense application of both is practically coterminous. Darwin's theory has remained a theory for fifty years; its innate truth is recognized by every one, yet in a judicial court of even moderate strictness it would be dismissed as unproven. It is somewhat surprising, then, that not a few disciples of Mendel, forgetful of the slow but steady progress of science, should show such uncalled-for haste in formulating rash speculations, and building unstable edifices on unreliable ground.

Mr. J. T. Cunningham has recently[1] called attention to the danger of conducting such investigations as lie within the province of Mendelism along lines too circumscribed and neglecting consideration of the "many facts which cannot be brought within the Mendelian formula—some because they are inconsistent with it, others because they are altogether beyond its scope." According to the latest Mendelian theory of sex, male individuals in certain animals are homozygous in respect of sex; that is, they produce only male-bearing spermatozoa, while female individuals are heterozygous, producing ova which are either male or female. The impregnation of a male ovum gives rise to male offspring; a female ovum produces a female. This hypothesis explains many difficulties, but its confirmation by the effects of castration in vertebrates is open to question. The assumption is based on the appearance or non-appearance of the secondary sexual characters; while castrated females tend to develop those of the male, castrated males do not develop those of the female. The conclusion, accordingly, is that there is a male element latent in the female. It is a well-known fact, however, proved by repeated experiment, that secondary sexual characters are largely under the influence of an internal secretion from the genital glands. The connexion would appear to be thus almost specifically chemical, and "entirely beyond the scope of Mendelian conceptions and Mendelian experiments," for the secondary sexual characters are not represented by units, in the Mendelian sense, in the gametes, but are the result of chemical action later in life. Further, a castrated female may be regarded as a neutral *soma*, and if this neutral *soma* regularly developed male

[1] Sex and Sexual Characters, *Science Progress*, January, 1910.

secondary characters there would be no reason why a castrated male—also a neutral *soma*—should not do the same. Thus, it would be impossible to understand the absence of the secondary characters in the castrated male. Now, it is not a fact that extirpation of the ovaries regularly causes the appearance of male secondary characters. The evidence at present available on this subject is somewhat scanty, but for the authenticated cases in which it has occurred, even without the removal of the ovaries, two possible explanations might be advanced: Either a mutation has taken place permitting the male characters to appear without the necessary testicular stimulus[4] and proofs might be adduced that such mutations do occur; or the individual is a hermaphrodite, which is the view of Shattock and Seligmann, the male element being at first in abeyance, but later acquiring a certain ascendancy. There are several reasons why the corresponding change should be less conspicuous in the male. Female characters in vertebrates are mostly negative—that is, no new characters are added to those present in the immature young. Again, the functional activity of the testes remains even to extreme old age, and thus the male character continues predominant, even although a female tendency were present. The mammary glands, however, are an example of the occasional development of female characters in the male; this, nevertheless, occurs independently of castration. With regard to the essential sexual elements, namely, ova and sperms, evidence tends to show that both, or at least their representatives, are present in each sex. In the lower vertebrates there is direct proof of this. The gonad of the hag-fish (*Myxine*) is hermaphrodite, and it has also been shown that ova occur frequently in the testes of the lamprey (*Petromyzon*), many Teleostean fishes, and several amphibia. In higher vertebrates no such direct evidence is available, but here again both ovary and testis contain peculiar interstitial cells, shown to be derived from the germinal epithelium, and thes may represent the reduced reproductive cells of the opposite sex. There is thus a suggestion that "perhaps all animals were originally hermaphrodite, and that the differentiation of sex was evolved by the reduction of one set of gametes to the rudimentary condition."

It is evident, then, that the present Mendelian theory of sex cannot be accepted in its entirety; forces independent of Mendelian law are to be reckoned with. Many of the Mendelian formulae are not merely theoretical, but metaphysical, and we find the discussion of the inheritance of the qualities of an organ in one gamete, and of the organ itself in another. This may be admissible in pure theorizing, but Mendelism makes pretensions beyond this which are not legitimate, and against which Mr. Cunningham has seen fit to utter this timely protest.

## THE INVESTIGATION OF PELLAGRA.

IT was stated in the JOURNAL of February 5th that a committee had been formed for the furtherance of research into the etiology and mode of diffusion of pellagra, a terrible disease which, long known in certain parts of Europe, has now been recognized in many parts of the British Empire and its dependencies. In recent years it has been observed in the Southern States of the American Union, and it has already shown such a tendency to spread that it has attracted the serious attention not only of the medical profession but of the public authorities. A National Association for its study has been formed, and a congress on the subject is to be held at Peoria, Illinois, in June of the present year. The theory of its origin which has till lately held the field is that it is due to the use of unsound maize or Indian corn as food. This had become almost an article of faith, strenuously preached by most of those who had attempted original investigation of the subject, received with otiose acquiescence by the bulk of the profession, and acted upon by the Italian Government. But although there has been some change in the distribution of the disease in Italy, the measures enforced have failed to reduce the mass of the disease. A number of reasons set forth by Dr. L. Sambon at the Leicester meeting of the British Medical Association, and summarized in the article in the JOURNAL already referred to, have given rise to serious doubt as to the truth of the maize theory. Cause has been shown why the accepted doctrine as to the etiology of pellagra must be tested in the crucible of newer knowledge. Whether Dr. Sambon's hypothesis that pellagra is protozoal in origin be true or not, it has strong *a priori* evidence in its favour, and it is important that it should be put to the touch of scientific inquiry. Dr. Sambon's practical demonstration in the Campagna of the truth of the mosquito doctrine of the origin of malaria showed how capable he is of carrying out an investigation of this kind. His theory as to the origin of pellagra has received the support of many men whose opinion on tropical diseases carries the greatest weight, and the importance of the investigation has been formally recognized by the Pellagra Committee. But the appeal for funds has not met with anything like an adequate response in this country. We therefore think it may be well to point out again that it is no mere question of the endowment of abstract research. Pellagra still saps the manhood of certain parts of Northern Italy, where the population is most energetic, and thus, besides the amount of suffering which it causes to the individual, constitutes a serious loss to the State. For this reason it justly excites alarm in the United States, and its existence in some of our colonies and dependencies should arouse the active interest of statesmen in this country. But with few exceptions British politicians care for nothing that cannot be offered to the people as a bait to catch votes; and in the Micawberesque "crisis" to which our finances have been brought by the tactics of party warfare it is vain to look to the State for help in the solution of a problem which at present lies outside the sphere of practical politics. The Colonial Office has, indeed, offered a small contribution, but it is on condition that a much larger amount is got from other sources. So far the chances that this will be forthcoming seem to be remote. There are many men in this country who, apart altogether from humanitarian considerations, should be interested in pellagra as a matter of business. The spread of the disease in our colonies would have a serious effect on the labour market. The time when the investigation should begin is close at hand. The American Government, more enlightened than ours, has commissioned Dr. J. E. Siler, Captain in the Medical Corps of the United States army, to work in conjunction with Dr. Sambon. It will be a reproach to this country if a discovery pregnant with far-reaching possibilities is suffered to be lost, or to pass to another nation for the lack of a little money—the merest fraction of what is thrown away in the formation of a "free library," which encourages a taste for the reading of worthless novels. We hope that the small

sum needed will be provided in time. The Honorary Secretary and Treasurer of the Committee is Mr. James Cantlie, F.R.C.S., 140, Harley Street, W.

## SERUMTHERAPY IN CHOLERA.

THOUGH bacteriologists have for a good many years now been seeking curative serums for every recognized bacterial disease, yet it must be admitted that, while undoubted triumphs have been achieved, on the other hand there have been many disappointments. These temporary failures have for the most part been due to the uncertainty which still exists as to the essential differences between endotoxins and true toxins and to the difficulty of applying with safety substances which act on the bacteria, and which, by killing a large number of bacteria at one time, might liberate a lethal dose of endotoxins. It is probable that more difficulty has been experienced in connexion with typhoid fever and cholera than with any other disease of an infective origin. Advances toward a solution of this problem have been made in this country by the work of the late Dr. Alan Macfadyen and Mr. Rowland among others, but there is ample room to day for improved methods and better results. The recent statement by Emmerich, that cholera symptoms are produced by nitric oxide liberated from the nitrites formed out of nitrates by the vibrios, does not appear to have met with general acceptance. The Russian Government some time ago appointed a commission, with Dr. L. Berthenson as chairman, to inquire into the relative values of the various curative serums. The report took the form of a lecture by the chairman, a summary of the evidence given by various experts, and a resolution. Berthenson based his lecture on the expressions of opinion of a number of Continental authorities, including Pfeiffer, Metchnikoff, Kraus, Berestneff, and Schurupow, as well as the published opinions of a number of authors, and dealt chiefly with the serums bearing the name of Denier, Salimbeni, Kraus, and Schurupow. The details of the report are published in the *St. Petersburger medicinische Wochenschrift* (No. 33, 1909). After weighing all the evidence, a resolution was adopted to the effect that "the clinical results obtained hitherto do not justify at present the assumption that Schurupow's serum possesses a definite curative value. In view, however, of the results gained at the Obuchow Hospital, where, apart from the reduced mortality, the clinical course would appear to have been favourably influenced in a very considerable number of cases (187), further observations in suitably equipped hospitals appear desirable, and for this purpose the preparation of a certain quantity of Schurupow's serum by the Institute for Experimental Medicine is necessary." In discussing the same subject, Professor Kolle[1] has arrived a very similar conclusion. He points out that a considerable number of investigators have attempted to obtain a true soluble toxin from the cholera vibrio, but expresses the opinion that Metchnikoff, Roux, Taurelli and Salimbeni were all alike mistaken when they thought that they were working with such a toxin. Carrière and Tomarkin, working on the foundation of Macfadyen's freezing experiments, were able to prove that a properly devised serum might possess antiendotoxic properties. Kolle analyses the figures given in Berthenson's report, and finally comes to the conclusion that cholera serums, and especially that prepared in Berne, possess very definite anti-endotoxic actions. The prognosis of cholera, even in the algid stage, need not be very bad when cholera serum is employed, but he does not go so far as to claim that these serums can really cure cholera. With regard to the Berne serum, he admits that the cases treated are too few to justify far-reaching deductions; these results, however, appear to him to be similar to those obtained in diphtheria by means of diphtheria antitoxin. On the other hand, he is of opinion that further experiment is required in order to devise improved methods for preparing a better form of serum. These conclusions appear a trifle contradictory, and we gather from them that up to the present cholera serums have done nothing more than lower the death-rate to a slight degree, and that it is necessary to look to further laboratory investigations for more potent remedies.

[1] *Deut. med. Woch*, November 25th, 1909.

## THE BROWN DOG AND HIS FRIENDS

THERE seems to be some difficulty in disposing of the "Brown Dog," whose removal from the Latchmere Estate was recently decided by the Battersea Borough Council by forty-one votes to four. It was stated that Miss A. L. Woodward had intimated her willingness to endeavour to persuade the Antivivisection Council to agree to the removal of the "Dog" to the grounds of the Antivivisection Hospital. That lady, however, disowned the soft impeachment in a letter addressed to the *Times*, in which she delivered herself in the following oracular terms: "In any negotiations which have been initiated by the Battersea Borough Council through their solicitor the question of any removal to the hospital grounds has never been even suggested by them, much more acquiesced in by us, and I may remind you that the grounds of the hospital are not the property of the Borough Council, and they cannot therefore have made such an offer, nor could it for the same reason have been accepted by us." May we suggest that the most appropriate resting place for the rejected work of art is the Home for Lost Dogs at Battersea, where it could be "done to death," as the inscription says, with a hammer in the presence of Miss Woodward, the Rev. Lionel S. Lewis, and other friends; if their feelings were too much for them, doubtless an anaesthetic could be administered. This would, at any rate, be a more dignified end than "scrapping"—a process which, it was stated, would not bring in £2. In the meantime we do not know whether the "Dog" still, "like some tall bully, lifts his head and lies," or whether he has been confided to the fostering care of Miss Woodward. We were promised an exciting scene when the memorial was removed, a philanthropic alderman having announced that he would take down some living prototypes of the Brown Dog which would show their teeth if there was a chance. Perhaps the alderman did not have a chance of displaying this fine humanity so characteristic of the antivivisectionist. Another touching example of antivivisectionist charity was given by Miss Lind-af-Hageby, who, at a meeting held on February 21st to protest against the decision of the Battersea Borough Council, said in her amiable way that its action amounted to a protection of "these young ruffians the medical students." At a "demonstration" previously held at Kensington under the auspices of the Incorporated Parliamentary Association for the Abolition of Vivisection and the Kensington Animal Protection Society, that gentle Knight, Sir George Kekewich, said he was quite sure that if women had the vote there would be no vivisection. We express no opinion about votes for women; but if Miss Woodward, Miss Lind-af-Hageby, and the late Miss Frances Power Cobbe—who loved animals by nature and human beings only by grace—are to be taken as representatives of their sex, and if Sir George Kekewich is justified in his belief as to the way in which they would use their votes, the welfare of men would have to give way to the comfort of

animals if the Suffragists prevail. It is a beautiful vision! But if it were realized, what would become of Sir George Kekewich's favourite recreation of "torturing" salmon?

## RISKS OF ANKYLOSTOMIASIS IN GREAT BRITAIN.

THE last fasciculus of the *Transactions of the Society of Tropical Medicine and Hygiene* contains a very interesting paper by Sir Thomas Oliver on ankylostomiasis. He narrated some exceedingly suggestive experiments on the power of the embryos of the ankylostome to withstand cold. A series of larvae were exposed in a vessel placed on the ground to a freezing temperature for forty-eight hours from 10.30 a.m. on December 26th to 10.15 a.m. on December 28th during a hard frost, at the time accompanied by a sprinkling of snow. A watch glass containing the larvae was placed so as to swim in a larger basin containing water; the water in the larger basin froze, but that in which the larvae had been placed did not. When the larvae were examined microscopically they at first gave no signs of life, but by degrees movement returned. A few hours after they had regained their normal mobility the glass containing them was placed in the snow on the frozen ground on the evening of December 28th; at 10 a.m. on December 29th the water was found frozen, and the frosted larvae embedded in the ice. The ice was gently thawed by placing the glass in the laboratory at a short distance from the electric lamp used for microscopic purposes, and the larvae gradually revived; that evening they were again put out on the frosty ground; the glass was buried in the snow for six days, but even after this the larvae, though at first immobile, were gradually brought to life once more. Ova, also, which had been frozen and gradually thawed, developed later on under suitable temperatures, but their chitinous capsule seemed to be extremely brittle. "Are the climatic conditions in England," Sir Thomas asks, "considered from the point of view of the results which Belger and I have obtained in our experiments with low temperatures, so hostile to the ankylostome as to prevent the transformation of ova into larvae?" He thinks not, and that as larvae could live in low temperatures for the length of time indicated they might quite possibly become a source of infection. Recently 40 cases of ankylostomiasis were reported from the brickfields in Holland in persons who had never worked in mines, and this fact, taken along with the results of these experiments, would seem to prove that the warning Sir Thomas Oliver has sounded is not altogether uncalled for, and that there is a real danger of infection of mines or brickfields in Great Britain should cases of ankylostomiasis be introduced.

## SMALL-POX AND VACCINATION IN GERMANY.

IT seems strange that at this time of day it should be necessary for the satisfaction of public opinion to bring forward repeated proof of the efficacy of vaccination, since the facts on which the doctrine is based have never been disproved. But as its opponents still "ingeminate" the fallacies which have been a hundred times exposed, we think it may be useful to give a summary of a reply recently made by Professor W. Lewin of Berlin[1] to a certain gentleman who had expressed his conviction that circumstances rendered it advisable to resift the whole evidence. After stating that he is the only medical man still living who was actively engaged in the great small-pox epidemic which broke out in Berlin after the Franco-Prussian War, Dr. Lewin proceeds: "At that time a barrack for small-pox patients was erected on the Tempelhofer Felde, under the supervision of the late Geheimrat Dr. Guttstadt, and I was appointed assistant. Later a second assistant medical officer was appointed in the person of my recently deceased colleague, Daus. The patients were distributed among thirteen wards, and I had the opportunity of observing and treating 1,300 small-pox patients during about four months—from October 9th, 1871, to January 21st, 1872. It was fairly hard work, since on some days from 20 to to 30 new cases were admitted. Quite apart from the severity of the disease, I shall never forget how many a buxom girl was discharged, after recovering from the illness, so terribly disfigured by the scars that she was scarcely recognizable." Professor Lewin states that all the patients, without exception, affected with "black-pox"—that is, haemorrhagic variola—died. The children who were unvaccinated when admitted also died, while those who had been vaccinated suffered but slightly. The most striking thing, however, was that while the adult mortality from the disease was 20 per cent. it was only 2 per cent. among the soldiers, who are, as is well known, vaccinated on joining the army. "Even if our observations," he continues, "were not the only reasons, they were certainly the most important which determined the introduction of statutory compulsion in the matter of vaccination in 1874. In the meantime bacteriology has gained a commanding position without, it is true, having discovered the causal organism of small-pox. But vaccination has obtained its scientific justification on the basis of the doctrine of immunity, so that the discontinuance of vaccination, which has shown definitely practical results, is inconceivable. More than one generation has passed since then, and the majority of medical men in Germany have probably never had an opportunity of seeing a case of small-pox. From time to time I come across persons who suffered during the last small-pox epidemic of the Seventies, and recognize them in my consulting room by the scars in their faces. The disease has become so rare that the moment a small-pox case is reported in Germany general excitement results; and in these instances the disease invariably has been imported from foreign countries, Austria or Russia, where vaccination is not compulsory. Though the Epidemic Diseases Act of 1900 includes small-pox, it should not be assumed that this implies the recognition of the inadequacy of vaccination. Those who make such statements show that they do not approach this question with an unprejudiced mind. I regard the inclusion of small-pox in the Act as fully justified and a wise precaution on the part of the State. Germany cannot isolate herself hermetically from neighbouring countries, and in the free intercourse which exists between all nations there is a danger of the introduction of such cases. For this reason caution is necessary." After observing that every investigator has the right to subject questions which appear to have been decided to fresh examination, he adds: "But I fail to understand on what ground it can be said that small-pox vaccination could not bear such a critical survey. The fact that since the introduction of compulsory vaccination—that is to say, for a whole generation—small-pox has been a disease unknown in Germany cannot be explained away. I will not deny that some damage may have been produced while vaccination was performed from arm to arm. I have learnt from the literature on the subject that some healthy children have been infected from others through vaccination, and that a generalized vaccinia has occurred in them which may have even run a fatal course. Such occurrences are much to be regretted, but this extremely rare accident can

[1] *Berl. klin. Woch.*, February 14th, 1910.

never be regarded as a proof of the injuriousness of vaccination. In such cases the necessary and easily exercisable precautions were evidently not taken, for infection can be prevented with certainty by such means. I vaccinated many thousand children during the years when I was Public Vaccinator in Friedrichsberg without having met with a single accident of the kind. The chief danger—the transmission of syphilis—however, has been absolutely excluded by the introduction of vaccination with animal lymph." Professor Lewin concludes by saying that the introduction of compulsory vaccination has been an immeasurable blessing to the Fatherland, and that the procedure may await future scientific investigation and criticism with unperturbed composure.

## THE TROPICAL DISEASE RESEARCH FUND.

THE report of the Advisory Committee for the Tropical Diseases Research Fund for the year 1909 has been issued [Cd. 4999. 2s. 8d.]. This committee, which was constituted by the Secretary of State for the Colonies in July, 1904, has at its disposal in the form of contributions from the Imperial Government, the Government of India, the Rhodes Trustees, and many Colonial Governments, an annual income of £3,470, and grants are made to the schools of tropical medicine in London and Liverpool, to the University of London (to provide the salary of the Professor of Protozoology), and to the University of Cambridge, partly in respect of a research studentship in medical entomology, and partly as a grant towards the general expenses of the Quick Laboratory in recognition of the assistance rendered to workers from the Colonies by Professor Nuttall. The report contains a series of replies from Colonial governments to the inquiry addressed to them by the Secretary of State in March, 1909, as to measures taken for the prevention of malarial fever. It contains also the report from the Professor of Protozoology, reports from the London and from the Liverpool Schools of Tropical Medicine, and reports on work done in certain Colonial laboratories. To some of these matters we hope to refer in a subsequent issue.

## MEDICINE AND MUSIC.

MUSIC and medicine are sisters through their common patron, Apollo; it is natural, therefore, that they should often be found together. There is, we believe, an orchestra composed entirely of doctors in Vienna; lately a similar one has been formed in Paris. The number of members is seventy, and it comprises performers on all the instruments required for a full orchestra, including the cymbals and the big drum. In the list of the Committee of Management we note several well-known names. M. Richelot, Member of the Academy of Medicine, is the President; Drs. R. Blondel and Lebreton, Vice-Presidents; Drs. Destouches and Duchesne, General Secretary and Assistant General Secretary; Dr. Kortz, Treasurer; Dr. Vaucaire, librarian and archivist; and Drs. Daniel and Renard, delegates. The conductor is M. H. Busser, conductor at the Opera, who, though not himself a rose, has lived in close touch with it, being closely related to Professors Demons and Denuce, and several other members of the Faculty. We have many first-rate musicians among the members of the profession here, though we doubt whether we could muster so complete an orchestra as that of Paris. Of performers on the trumpet and the big drum, however, there might be no lack. We have also many sweet singers, though we do not think we have a party of "singing doctors" such as there was at Edinburgh in the first half of the last century. In the *Life of Sir Robert Christison*, edited by his sons (Blackwood, Edinburgh and London. MDCCCLXXXVI), we find it recorded that as a singer, both as a soloist and in part songs, he took a high place among the amateur musicians of Edinburgh. "He was," it is said, "gifted with a bass voice of unusual power and good quality; and, although he never had time to take lessons, constant practice in quartette singing and in small musical societies brought his voice to some degree of cultivation. He had only the most cursory knowledge of the science of music, and used to quote, as a signal proof of the low condition of music in Edinburgh thirty years ago, that people regarded him as an authority on music simply because he was rather prominent as a singer in society. Nevertheless, music in Edinburgh owed a good deal to him, as he was one of the first amateurs to disregard and oppose the absurd remnant of Puritanism which caused the cultivation of secular music by societies or clubs to be considered as a somewhat dangerous accomplishment, allied to dissipation. When a number of young men, with some hesitation, met together about thirty-five years ago to form one of the first choral societies in Edinburgh, Sir Robert encouraged them by his presence, and congratulated them on the changed state of opinion which enabled them thus to come forward, contrasting it with the stricter notions prevalent in his own youth, when no attempt of the kind could have been ventured on." Dr. Peddie contributes an interesting note on the "singing doctors." He says: "Dr. Christison, Dr. Bennett, Dr. Maclagan, and myself were among the first gentlemen amateur vocalists who ventured to perform publicly in Edinburgh. We had sung much together, and were known as the singing doctors at parties, and at dinners of the Harveian Society and of the Colleges of Physicians and Surgeons; but it was not till December 20th, 1851, that we performed in public, at a concert in the original St. Cecilia's Hall, under the patronage of Lord and Lady Murray, for the benefit of the widow of Mr. Mainzer, when about £70 were realized for her. Dr. Christison, Dr. Maclagan, myself, and Mr. John Christison appeared as glee and quartette singers in the Music Hall for the first time on March 27th, 1863, at a concert for the benefit of the Edinburgh Artisan Rifle Companies. This public appearance of professional men as amateur singers made some sensation at the time. We performed subsequently at several of the annual concerts of the University Society. Dr. Christison was one of the most active and enthusiastic members of the Amateur Vocal Club from its formation at Dr. Bennett's house on April 19th, 1852, till the final meeting in 1876." It is added that Sir Robert Christison's voice retained much of its power and quality till he was past 70, and he did not give up taking an occasional share in part-singing for several years afterwards. The last occasion on which he joined in anything of the kind was on the eighty-third anniversary of his birth, when he took the bass part in Bishop's "Mynheer Van Dunck."

## REORGANIZATION OF THE EDUCATION DEPARTMENT IN GERMANY.

WE learn from the *Berliner klinische Wochenschrift* that it is proposed to transfer the Education Department of the Prussian Ministry to some other Ministry, possibly to the Home Office. At present the department consists of three offices—for education or instruction, for public worship, and for medical matters respectively. Some years ago it was suggested that the public worship section should be handed over to the Ministry of Justice, but this was opposed on

the ground that education and church questions were so intimately associated that it would be inexpedient to separate the sections. Veterinary medicine has already been divorced from education, and, together with the veterinary State schools, has been taken up by the Minister of Agriculture. It appears unlikely, however, that the Medical Faculty—that is, the teaching centres of the universities and academies—would be handed over to the Home Office, since the faculty deals exclusively with educational matters. The change would therefore affect only medico-sociological questions. The profession in Berlin is in favour of this change, provided some guarantee is forthcoming that the newly constituted department shall be either under the direction of medical men, or, if it is found necessary to have a legal director, that a medical co-director shall be appointed. In Saxony and in Bavaria such an arrangement has proved entirely successful. The official bodies known as the "Medical Department" and the "Scientific Deputation for Medical Affairs in Prussia" would be affected by this change, and since the latter represents the High Court of Medicine in Germany it is considered essential that it should be placed under medical control. Failing such a concession, the profession in Berlin will strenuously oppose the proposed change.

## TRUE DISINTERESTEDNESS.

WE hear much in these days of the *furor secandi* of surgeons, of the carelessness of physicians, and of the excessive value placed by both on their services. We are glad, therefore, to be able to record a unique act of disinterestedness which should close the mouths of our detractors. One of the foremost of French surgeons is reported, on completing a brilliant operation, to have left his fee—within the patient's abdomen. His modesty would doubtless prevent his publishing the fact, which we give on the authority of the *Tribune Médicale*. We only regret that this sublime act of charity should have to be credited to a Frenchman. How unlike he was to the English physician of a less altruistic day, of whom it is told that he was called to a patient who, before his arrival, had just passed away to a better world without the help of medicine! Taking the dead man's wrist mechanically, he found the hand clenched; on opening it he found a guinea. "This," said the doctor, pocketing the coin, "was evidently meant for me!" The only reason which historical criticism might advance for questioning the truth of this story is the almost incredible fact that a patient should have been prepared with the fee beforehand.

## THE PHASES OF IMMUNITY.

PROFESSOR CHARLES RICHET, in discussing recently the phenomena of immunity,[1] compared the humoral with the cellular or phagocytic theory, and maintained that neither theory is exclusive of the other, but that each contains a partial expression of the truth. Immunity against toxins depends essentially on the difference in the vulnerability of different organisms to the action of different toxins, and particular importance attaches to the nerve cells, which in complex organisms are always the most vulnerable constituents. He distinguishes a primary immunity, which is a relative insusceptibility to toxins, from a secondary immunity, which is due to a destruction of the toxins introduced, either by the liquid constituents of the body or by the phagocytes. He also proposes to distinguish three successive phases in immunity: (1) Immunity accounted for by impermeability to microbes. This is found in parts which oppose insurmountable barriers against the invasion of the tissues by microbes. Thus the cutaneous epithelium and the coverings of the digestive and pulmonary tracts offer an almost complete resistance against the penetration of microbes into the blood and the tissues. (2) Immunity due to inability of the microbes to develop in the juices of the body; (*a*) because these juices possess bactericidal or inhibitory properties; (*b*) because they are unsuitable for the nutrition of the microbes, either owing to their lack of some necessary nutritive substance, or because the phagocytes destroy the microbes which have made their way in. (3) Immunity due to resistance of the cells against bacterial toxins, accompanied by the elaboration of inhibitory substances or the destruction of the requisite pabulum, the result being that at the end of a certain time the noxious micro-organism disappears of its own accord, without impairing the vital functions of its host. Natural immunity probably depends on these three conditions; but the importance of the nervous system must always be borne in mind, for it is this which controls the nutrition and chemical composition of the tissues.

[1] *La Clinique*, December 10th, 1909.

## THE REPORT OF THE VIVISECTION COMMISSION.

WE see it stated that, after the lapse of a considerable time owing to the death of Lord Selby and the general election, the members of the Royal Commission on Vivisection held a meeting on February 26th. Some progress, it is said, was made in the consideration of the draft report of the Chairman. We were under the impression that the report was ready long ago. Surely it is high time it was issued? Scientific men await its coming with equanimity, but in the meantime the delay in its issue is giving the opponents of research the opportunity of cleaving the general ear with horrid speech full of lies and misrepresentations. They abuse the Commission as a packed body, and threaten, as Sir George Kekewich lately did, to fight any bill founded on the report through the Parliamentary Association for the Abolition of Vivisection. This, we suppose, is intended to frighten a Government which has already more contentious matter on its hands than it can deal with. But if the anti-vivisectionists are to attempt to fight a bill they would be more likely to be victorious if they first settled their quarrels among themselves.

## PAPILLOEDEMA AND LOCAL DIAGNOSIS.

WE publish this week the full text of a paper read by Sir Victor Horsley before the Section of Ophthalmology at the last Annual Meeting of the Association, on the treatment, localizing value, and pathology of that condition of the fundus of the eye to which various names have been applied, but for which he prefers the term "papilloedema." The scientific and clinical importance of this paper will be universally recognized. The subject is one to which the author has given special attention, and to the elucidation of which he has made many contributions during the last five-and-twenty years. Among the points to which he now particularly directs attention, the first is one of outstanding clinical importance, inasmuch as after discussing the arguments of those who have taken a different view, he advances additional evidence in support of his contention that the papilloedema begins on the side of the tension lesion, and is, as a rule, more severe on that than on the opposite side. He is able to bring forward new evidence in support of this opinion, which appears fully to justify his contention that when a case of apparent contralaterality

of tumour and papilloedema occurs the pressure conditions must be reconsidered, inasmuch as when all the clinical observations are collated the papilloedema is the safest guide for the operator to follow. Next in importance to a correct localizing diagnosis is early diagnosis, and Sir Victor Horsley in this paper brings forward further evidence supporting the view he expressed three years ago, that the papilloedema always begins at the upper nasal quadrant of the papilla, and therefore that in suspicious cases this region of the disc must be carefully and constantly watched. In the concluding parts of his paper he deals with two interesting pathological questions: the first is the late Mr. Marcus Gunn's interpretation of the production of macular figures, and Sir Victor Horsley confirms that excellent observer's conclusions and shows that the macular figure is caused by tension lines centred at the fovea, the greatest stress being just beneath the intima. The second concerns the phagocytes of the retina, which he shows to be of several different kinds. The points we have here very briefly indicated could be demonstrated only by the study of a long series of pathological specimens, and photographs of the naked-eye and microscopical appearances described are reproduced in a special supplement to the JOURNAL this week. We are compelled in consequence to postpone the publication of the ordinary SUPPLEMENT to the JOURNAL until next week, when a double number will be issued. The notices of Association meetings, and the Calendar of the Association will be found at pages 611 and 612 of this issue.

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AT a meeting of the Paris Academy of Medicine held on March 1st Sir Victor Horsley was elected a foreign associate.

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THE French Congress of Gynaecology, Obstetrics, and Pediatrics will hold its sixth annual meeting at Toulouse this year from September 22nd to 27th, under the presidency of Professor Kermisson. Among the subjects proposed for discussion are acute curable forms of tuberculosis in children, eczema of nurslings, vertebral osteomyelitis, pyloric stenosis in sucklings, relations between biliary lithiasis and pregnancy and delivery, pathogeny and treatment of severe vomiting of pregnancy.

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AMONG the fifteen men of science recommended by the Council of the Royal Society for election into the fellowship are: Dr. F. A. Dixey, of Oxford, President of the Entomological Society; Dr. A. E. Garrod, Physician and Lecturer on Chemical Pathology, St. Bartholomew's Hospital; Lieutenant-Colonel Sir William Leishman, R.A.M.C., Professor of Pathology in the Royal Army Medical College; Mr. H. G. Plimmer, well known for his researches on blood parasites; and Mr. F. Soddy, Lecturer in Physical Chemistry and Radio-activity in the University of Glasgow.

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THE scientific societies and universities of Australia are taking steps to arrange that the British Association for the Advancement of Science shall visit Australia in 1913 or 1914. A large and influential deputation, at the head of which was Sir John Madden, Chancellor of Melbourne University, waited on the Federal Prime Minister recently with a request for a Federal guarantee up to the sum of £10,000. The Prime Minister said he would bring the matter before his colleagues with the strongest personal recommendation.

# Medical Notes in Parliament.

[FROM OUR LOBBY CORRESPONDENT.]

**Notification of Births and Infant Mortality.**—Mr. Vivian asked the President of the Local Government Board how many local authorities had adopted the Notification of Births Act, the names of such local authorities, and what diminution in the infant death-rate under one year had taken place. Mr. Burns replied that the Act was now in force in 195 areas of local government, namely:—(1) The whole of the Administrative County of London, comprising the City of London and the 28 metropolitan boroughs; (2) 46 county boroughs; (3) 46 non-county boroughs; (4) 57 urban districts; (5) 17 rural districts. (In the case of 4 non-county boroughs, 7 urban districts, and 16 rural districts, the Act was in force by virtue of its adoption by the Worcestershire County Council.) The names of the areas were as follows:

(1) London.

(2) *County Boroughs.*—Bath, Birmingham, Blackburn, Blackpool, Bolton, Bootle, Bradford, Brighton, Burnley, Bury, Cardiff, Croydon, Derby, Dudley, Exeter, Grimsby, Halifax, Ipswich, Kingston-on-Hull, Lincoln, Liverpool, Middlesbrough, Merthyr Tydvil, Newcastle-upon-Tyne, Newport (Mon.), Northampton, Norwich, Nottingham, Oldham, Preston, Reading, Rochdale, Rotherham, St. Helens, Sheffield, Smethwick, Southampton, Southport, Stockport, Swansea, Walsall, West Bromwich, West Ham, Wolverhampton, Worcester, York.

(3) *Non-county Boroughs.*—Ashton-under-Lyne, Aston Manor, Batley, *Bewdley, Burslem, Cambridge, Chipping Wycombe, Chesterfield, Clitheroe, Colne, Darwen, Dewsbury, *Droitwich, Eastbourne, East Retford, Eccles, *Evesham, Folkestone, Hove, Ilkeston, Keighley, Kendal, *Kidderminster, Kingston-upon-Thames, Lancaster, Leamington, Longton, Luton, Macclesfield, Mansfield, Margate, Middleton, Rochester, Shrewsbury, Stalybridge, Stockton, Taunton, Thornaby-on-Tees, Wakefield, Wallsend, Weymouth, Winchester, Wimbledon, Workington, Worthing, Wrexham.

(4) *Urban Districts.*—Acton, Ashton-in-Makerfield, Atherton, Barking Town, Barry, Beckenham, Biddulph, Bilston, Brierfield, *Bromsgrove, Brandon and Byshottles, Brumby and Frodingham, Carshalton, Chiswick, Crompton, Edmonton, Failsworth, Farnworth, Finchley, Friern Barnet, Grays Thurrock, Handsworth (Staffs), Horsforth, Hucknall Torkard, Ilford, Kettering, King's Norton and Northfield, Knutsford, Leek, *Lye and Wollescote, Long Eaton, *Malvern, Middlewich, Nantwich, *North Bromsgrove, *Oldbury, Penge, Penrith, *Redditch, Rhondda, Shildon and East Thickley, Shipley, Southwick-on-Wear, Stanley (Durham), Stone, Stourbridge, *Stourport, Stretford, Swinton and Pendlebury, Teignmouth, Tottenham, Tyldesley-with-Shakerley, Wellingborough, Willesden, Whickham, Woodford, Wood Green.

(5) *Rural Districts.*—*Bromsgrove, *Droitwich, *Evesham, *Feckenham, *Halesowen, *Kidderminster, *Martley, *Pershore, *Rock, *Shipston-on-Stour, *Stow-on-the-Wold, *Tenbury, *Tewkesbury, *Upton-upon-Severn, *Winchcomb, Winchester, *Yardley.

The death-rates of infants during the first year of life published by the Registrar-General for England and Wales showed that the figures for the years 1907, 1908, and 1909 were lower than in any previous year recorded, being 118, 120, and 109 respectively per 1,000 births. The lowest corresponding figures in any previous year was 128 in 1905.

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**Poor Law Reform, Ireland.**—Captain Craig asked the Chief Secretary for Ireland whether he could state the intention of the Government in regard to the reform of the Poor Law in Ireland. Mr. Birrell answered that the question of the reform of the Irish Poor Law was under consideration in connexion with similar reforms for the rest of the United Kingdom. A bill on the lines of the recommendation of the Royal Commission and of the Viceregal Commission was in course of preparation, but in present circumstances he could not say anything as to its introduction. In answer to a further question as to whether Ireland could not be dealt with separately, Mr. Birrell replied in the negative, as he was afraid that if treated separately the question could not be considered otherwise than highly controversial in many of its particulars.

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**The Sanitary Condition of Osborne College.**—Lord C. Beresford asked the First Lord of the Admiralty last Monday what was the nature of the illness amongst the naval cadets at Osborne College; how many were

* By virtue of the adoption of the Act by the Worcestershire County Council.

affected; were any cases fatal; had any trace of the origin of the illness been discovered; and would he state whether the buildings were hastily erected against the advice of the civil engineering and medical authorities of the Admiralty, who recommended a larger expenditure of money in order to erect more suitable structures. Mr. McKenna said that the nature of the illness was epidemic influenza; 244 were affected. The disease was epidemic throughout the country, and had been introduced into the college in the usual way. One case proved fatal from pneumonia and peritonitis. There was no foundation for any of the suggestions contained in the last part of the noble lord's question. In any event, the Board of Admiralty in 1903 took full responsibility for the course pursued, and it would be irregular to refer to the advice of individual officials in the Admiralty. In reply to further questions as to whether the buildings had not been erected upon the original foundations of the Royal stables and that some of the boys had suffered from an equine disease known as "pink eye," Mr. McKenna said that the question should be asked of those responsible in 1903 for the establishment of the college. He accepted full responsibility for the present state, and said that although the word "temporary" was used as regards the quarters for the cadets, it was intended that the buildings should be used for a longer period than a few years, and that was the reason why more permanent buildings had not been erected.

**Chinese Pork.**—There was quite a little debate on Chinese pork on Tuesday, which Mr. Fell started by asking the President of the Local Government Board if the whole of the cargo of Chinese pork landed at the London docks in July last had now been inspected; and, if so, how many carcasses were condemned by the inspectors. Mr. Burns said that he understood that the whole of the cargo in question had been inspected, and that the total number of carcasses landed and inspected was 4,643. Of these, 391, or 8.4 per cent., were condemned by the inspectors, and the remaining 4,252 were passed as fit for consumption. Asked as to further shipments, Mr. Burns replied that he had received a copy of a report made to the Port of London Sanitary Authority by their Medical Officer of Health stating that two cargoes of pigs from China had arrived in the port in January last. On preliminary inspection, it was found that the pork did not comply with the requirements of the Public Health (Foreign Meat) Regulations. A notice was therefore served under the Regulations by the Medical Officer of Health, forbidding removal of the meat for any purpose other than exportation. He had no definite information as to what had become of the condemned cargoes. The 4,252 carcases which were passed as fit for consumption were severely tested and passed as clean and pure food. The 8.4 per cent. were rejected because of signs of some disease which, in the opinion of the Medical Officer of Health, did not warrant its being to put into circulation for human food. With regard to the landing of pork at Liverpool, Mr. Burns said that he had not received any formal notice of the arrival of Chinese pork in the port of Liverpool. In the event of such an occurrence, the matter would be dealt with at the port of Liverpool by the Customs officers and Medical Officer of Health, whose action in regard to such a consignment would be governed by the requirements of the Foreign Meat Regulations. These regulations applied to all ports in England and Wales. The condemned pigs were not "scavenger" pigs; they were carcasses of pigs which had been bred in the Yang-tsze Valley, and fed for the most part on rice. The usual diseases from which pigs suffered were trichina and tuberculosis.

**Cairo Water Supply.**—Sir William Bull asked the Secretary of State for Foreign Affairs last week whether he had received information that, in consequence of the numerous complaints against the existing water supply of the town of Cairo, it was proposed to instal a new system whereby the water would be drawn direct from the river Nile, and not from the tubular system hitherto in force; and whether, for reasons of economy, it was now proposed to instal this new system at Rod el Farag, down-stream of the town of Cairo. Sir Edward Grey replied that he had no recent information on the subject, but would make inquiry.

**Milk Legislation.**—In reply to Captain Faber, who asked whether any further powers were likely to be given to any local authority by legislation, Mr. Burns stated last week that he was not prepared to make any general statement at the present time.

**Vivisection (Report of Royal Commission).**—Sir James Yoxall asked the Secretary of State for the Home Department if he could say on what date the report of the Royal Commission on Vivisection would be made public. Mr. Churchill replied that he was informed by the Secretary to the Commission that it was impossible, owing to the change of chairman and to the fresh points which had arisen, to state definitely at what date the report was likely to be presented.

**Vivisection.**—On Monday Sir F. Banbury presented and read a first time his bill to prohibit experiments on dogs.

**Private Members' Bills** will be relatively few this session, and, although over 300 members tried their fortune in the ballot-box last week, only six of the eight lucky members introduced bills. Sir Robert Price used the premier position to give notice of a bill for the Prevention of Destitution, which will deal with the whole question of the organization of public assistance; he selected April 8th for the second reading, so that a great Poor Law debate may be anticipated for that day. Mr. Kerr-Smiley, who used his opportunity to introduce a bill dealing with Irish Poor Law, selected April 22nd for the debate on his measure. Mr. Charles Roberts introduced a Temperance Bill for Scotland, which will be discussed on April 15th; while Mr. Sherwell will try to get a second reading for a Parliamentary Elections Bill on April 1st. Of the total of seventeen bills introduced, only two others have any medical interest—namely, Sir Charles Dilke's Shops Bill and Mr. Charles Roberts's Public Health Act (1875) Amendment Bill, down for April 29th, which seeks to empower local authorities to acquire water rights otherwise than by agreement.

**Nurses' Registration.**—Mr. Munro Ferguson introduced on Tuesday a bill to regulate the qualification of trained nurses and to provide for their registration. The second reading was fixed for March 14th.

**The Course of Business.**—The House of Commons passed through an acute crisis on Monday, and then, after the Prime Minister's statement had been discussed for some four hours, proceeded to consider Treasury borrowings and Supplementary Estimates in a prosaic fashion. These subjects, with the bills necessary to meet the redemption of the War Loan and the temporary borrowing, will occupy the rest of the week. The Army Estimates will be reached on Monday next, and the necessary votes, it is hoped, will be passed early in the week, so as to enable the Civil Service Vote on account and Army Supplementary Estimates to be obtained. On March 14th the Speaker will be moved out of the Chair to enable Navy Estimates to be taken, and it is intended to get Votes A and I by Thursday, while the votes on account and other financial business will be taken on the following day. The House is to rise on March 24th, and the three preceding days will be occupied in concluding the necessary financial business. When the House meets again on March 29th, the relations of the two Houses of Parliament will be considered, and resolutions submitted for excluding the Upper House altogether from the domain of finance, and limiting the veto as regards general legislation. For the present the Budget is postponed.

## THE BEIT MEMORIAL FELLOWSHIPS.

**The first appointments to the Beit Memorial Fellowships for Medical Research were made at a meeting of the trustees on February 23rd. The fund had its origin in a gift by Mr. Alfred Beit of £50,000 for the purpose of founding an Institute of Medical Sciences in the University of London. This proposal was not carried out owing to circumstances already sufficiently explained, and last December it was announced that Mr. Otto Beit, brother of the donor, had increased the amount to £215,000, yielding by investment an annual income of £7,500. The fund is to be devoted to the furtherance of medical research which, with few exceptions, must be conducted in institutions connected with the London University. Ten fellowships are to be awarded each year, each of the value of £250 a year, available for three years.**

**The trustees received 70 applications—58 from England, 3 from Scotland, 1 from Ireland, 1 from Wales, and 7 from abroad. The following candidates, whose names are arranged in alphabetical order, were elected to Fellowships, the appointment to date from March 1st, 1910:**

George Harold Drew, B.A.Cantab., author of papers and researches on parasitic and other diseases of fish, on the development of laminaria, and on marine bacteriology. The nature of the research authorized is the zoological distribution of cancer and a systematic study of an experimental character on the mode of origin of neoplasms (tumours). The research is to be carried out at the Imperial Cancer Research Laboratories; the Zoological Station, Naples; the Marine Biological Station, Plymouth; and the Zoological Station, Roscoff, France.

Frederick William Edridge-Green, M.D., B.S.Durham, F.R.C.S., who has made numerous contributions and researches chiefly to the subject of vision and colour vision. The nature of the research authorized is an investigation of various problems connected with vision and colour vision, especially in relation to the correct reading of signals on land and sea. The research to be carried out in the Institute of Physiology, University College.

Edward Hindle, B.Sc.Lond. (Instructor in Parasitology, University of California), author of papers on the morphology and life-history of protozoic blood parasites and their relation to disease. The research authorized is into the morphology and treatment of protozoic blood parasites, especially *Spirochaeta duttoni* and trypanosomiasis (sleeping sickness). The research is to be carried out at the London School of Tropical Medicine, and Uganda.

Thomas Lewis, M.D., B.S.Lond., D.Sc.Wales, author of papers and researches relating chiefly to a new method of investigating the heart. The nature of the research authorized is an inquiry into the mechanism of irregularities of the heart, and the research is to be conducted at University College Hospital Medical School.

G. C. McKay Mathison, M.D.Melbourne (Assistant in Physiology, University College, London), author of papers on the estimation of phosphorus and the output of organic phosphorus in urine, and of researches into the nervous control of respiration. The researches authorized are (*a*) the nervous control of respiration, (*b*) the effect on respiration of changes in the chemical composition of the blood, and (*c*) the mechanism of biliary secretion and its general effect in digestive processes. The researches are to be conducted in the Institute of Physiology, University College, London.

Otto May, M.D.Cantab. (Medical Registrar, Middlesex Hospital), author of papers on physiological and clinical subjects. He is authorized to conduct clinical and experimental researches on lesions of peripheral nerves at University College Hospital Medical School.

E. Mellanby, M.A., M.B., B.S.Cantab. (Demonstrator of Physiology, St. Thomas's Hospital, London), author of various papers dealing with the subject of the authorized research into the significance of the large excretion of creatin in cancer of the liver and its diminished excretion in cirrhosis of the liver, etc. The research is to be conducted at St. Thomas's Hospital.

F. Parlett Fisher Ransom, M.D.Edin., author of papers and researches on tetanus and tetanus antitoxin, immunity, diphtherial paralysis, and antitoxin. The research authorized is into the mode of action of caffeine, theobromine, and allied substances on the muscular and nervous systems. It is to be conducted in the Pharmacological Laboratory, Cambridge, and King's College, London.

Sidney Russ, D.Sc.Lond. (Demonstrator of Physics, Victoria University, Manchester), author of papers and researches on radium, thorium, and actinium. The research authorized is into the association of radio-activity with cancer, and it is to be conducted at the Cancer Research Laboratory, Middlesex Hospital.

Ida Smedley, D.Sc.Lond. (Assistant Lecturer in Chemistry, Victoria University, Manchester), author of papers and researches dealing chiefly with organic chemistry. The research authorized is into the processes involved in the formation of fat in the organism: it is to be conducted at the Lister Institute of Preventive Medicine.

## MOTOR CARS FOR MEDICAL MEN.

### Insurance during Repairs or Overhauling.

A medical man who, in response to an inquiry, was recently furnished with the prospectus of the "Red Cross" motor insurance policy subsequently wrote to inquire with regard to insurance of his own car and a hired car during the time that the former was being repaired or overhauled. From a perusal of the prospectus and draft policy he had formed the opinion that he would not be covered against accidents to third parties or car arising during the use of a hired car while his own car was for, say, a month under overhaul. This impression is, strictly speaking, correct, but the "Red Cross" Indemnity Association provide for such a contingency under their policies as follows: Should an owner find it necessary to send his car to a garage to be overhauled he can transfer the policy to the car he hires, provided he gives the "Red Cross" Indemnity Association previous notice of the change. If the hired car is not of greater value or horse-power than the owner's there will be no extra charge, and the owner's legal liability in respect of his driver would still be covered. The policy, however, will not cover the two cars at the same time, and the owner must either make the garage responsible for any loss or damage which may happen to his car while being overhauled, or cover it separately for a short period. If the garage repairers refuse to accept liability—although they are liable unless there is a mutual agreement to the contrary—they will usually arrange an insurance or accept the risk at a small extra charge. In the event of an accident to the owner's car involving serious repairs, when the owner hires another car for a short time, this other car would have to be insured, and provision for the expenses thus incurred is made in the "Red Cross" doctor's policy; as a rule, however, under the hire agreement the person hiring insures and also provides the driver, so that the hirer would not be responsible for any accident.

**Particulars can be obtained on application to the Secretary and Agent of the Medical Insurance Committee, 429, Strand, London, W.C.**

### Country Doctors and Motor Cars.

Dr. Allan Wilson (Ardrishaig, Argyllshire) writes: That a motor car is a great comfort and convenience to a medical man in a country practice is not denied, but, unless he is in a position to keep a chauffeur, it can scarcely be considered a boon or a blessing to his patients, because, when he is going from house to house on his daily rounds, his thoughts and attention, that should be occupied with the contemplation of the nature and treatment of the diseases which come under his notice are, by necessity, directed to the steering of his car. At one period of my career—now a long one—I conducted a large country practice in a populous part of the north of England, extending into fourteen parishes, and I attribute my success in a great measure to the careful thought and study I was able to devote to my cases while sitting beside the coachman in a dog cart. Doubtless there are hundreds of others who have done, and are now doing, the same, to the benefit of their patients and their own repute; whereas the practitioner who uses a motor car without a chauffeur is obliged to direct his whole attention to steering to avoid accidents, illustrating the adage—don't speak to the man at the wheel.

### Repayment of Petrol Tax.

F. B. inquires what course he is to follow in the following circumstances: He understands that his application for repayment must be accompanied by "Customs certificates" of payment of duty on the actual petrol. He has obtained his spirit in quantities that have represented part only of the quantities withdrawn from bond by the person supplying the spirit, and no separate certificates of payment of the duty on the specific quantities he has purchased are in existence.

*** Our correspondent is apparently under a misapprehension as to the "certificates" that are to accompany the application for repayment of the petrol tax. The certificates required are not certificates by the Customs or Excise authorities, but vouchers from the trader supplying the spirit to the effect that tax has been paid on the stock of spirit from which the supply is drawn. Such vouchers usually take the form of receipted invoices with a certificate written or printed thereon and signed by the trader or responsible person on his behalf. The Excise authorities satisfy themselves as to the accuracy of the certificates so given before making the repayment claimed.

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It is not often that a medical practitioner lives out a century of years. We therefore note with interest that, according to the *Temps*, Dr. Jean Charles Boullé, of Saint-Valérien, near Sens, will enter the ranks of centenarians on March 3rd. We congratulate him on the fact, all the more that he is said to be in perfect health. Preparations are being made at Saint-Valérien to celebrate the occasion with due ceremony.

# Scotland.

[*FROM OUR SPECIAL CORRESPONDENTS.*]

PROPOSED SCHEME FOR NEW LECTURERS AT GLASGOW.

THE University Court at its last meeting had under discussion the important motion sent from the General Council:

> That distinguished graduates who may make application to the University Court to teach classes in the university qualifying for graduation should, when the University Court is satisfied of their ability and fitness, be appointed lecturers in the university, and should be granted class-room accommodation in so far as that is possible.

This motion had already been discussed by the Senate and the various faculties, but has apparently not met with general approval. At the meeting of the court, considerable difference of opinion as to the practicability of the scheme was displayed. By some members it was held that such a scheme would be educationally sound, and would lead to increased efficiency in tuition, while at the same time it would stimulate the interest and retain the services of distinguished graduates. On the other hand, it was urged that the financial difficulties were considerable, and that at present the university finances were not in a very flourishing condition. Some of the members pointed out that if the proposed lecturers were to be paid by the fees of the students they attracted, the success of these lecturers might seriously cripple the financial resources of the university, since the professors would still require their fixed salaries, though a portion of the moneys at present available for that purpose would under the new scheme be diverted to the lecturers directly competing with the professor. According to another view, the proposal to establish such lecturers was contrary to ordinance. In such a conflict of opinions, the court decided to defer its decision till it had had further opportunity of considering carefully the various points brought out in the discussion.

It does not seem likely that the scheme will be adopted in face of the opposition of the Senate. Nor is it easy to foretell how far, if adopted, it would prove successful. At present in Glasgow systematic teaching in medical subjects is entirely in the hands of the professors. The extramural school is, with the exception of one or two classes, unable to attract many students from the university classes. Whether this proposal to institute intramural officially-recognized teachers would prove stronger than the present system of extramural teachers is doubtful. Possibly it might prove a success if some system of short half courses were instituted. Thus a man specializing in nervous diseases might deliver a short course on that subject and so on.

MEDICAL STUDENTS' HOSTEL IN GLASGOW.

An attempt is being made to found in the immediate neighbourhood of the Western Infirmary a hostel for senior medical students engaged in clinical work, so that the residents may be within call in emergency cases and so gain a great amount of valuable experience at present lost. The initial outlay for the erection of a hostel capable of accommodating thirty residents will amount to close upon £3,000. But a fund is at present being raised, and, as this is likely to meet with ready support, the necessary amount should soon be forthcoming.

THE SCOTTISH LOCAL GOVERNMENT BOARD.

The Secretary for Scotland is taking steps to increase the staff of the Local Government Board for Scotland in order to secure an efficient administration of the Housing and Town Planning Act. An engineering inspector and an inspector with special architectural qualifications will be appointed with reference to town-planning work, and the Treasury has also agreed to the appointment of an additional medical inspector. A lady inspector, whose duties will include the inspection of boarded-out children, is to be appointed, and will assist also in the Board's public health and Poor Law administration. The clerical staff of the department will also be increased.

A PAISLEY MEDICAL APPOINTMENT DIFFICULTY.

A somewhat curious case is engaging attention at Paisley. The appointment of a medical officer to the Craw Road parish hospital and lunacy wards has been questioned. The House Committee, at a meeting called for the special purpose of making an appointment, selected Dr. Bruce. The parish council upset this decision. Dr. Bruce claims that the appointment has been given to him. At the meeting of the parish council last week the matter was discussed, and a motion that a committee be appointed to consider the legality of the position was submitted. The chairman, however, ruled the motion incompetent and refused to allow it to be put to the meeting.

# Ireland.

[*FROM OUR SPECIAL CORRESPONDENTS.*]

ROYAL MEDICAL BENEVOLENT FUND SOCIETY OF IRELAND.

SIR WILLIAM SMYLY has renewed his offer this year of a donation of £20 to the funds of this society on condition that half the medical men in Ireland subscribe to the fund at the rate of 1d. a week (that is, 4s. 4d. a year). The sum asked from each man is not large, and it is hoped that non-subscribers will be induced to contribute to and to take an interest in the fund.

REST FOR THE DYING.

The Rest for the Dying is a small home founded some years ago in Dublin for the purpose of providing for dying patients who might not be suitable cases for admission to the general hospitals. The annual report which has just been issued shows that during the year 1909, 63 patients were cared for, and testimony to the high value of the institution is borne by numerous laymen and doctors. As a refuge for, amongst other cases, those of advanced tuberculosis, its usefulness, both direct and indirect, is great.

MEDICAL OFFICER OF SKIBBEREEN WORKHOUSE.

The Local Government Board has written to the Skibbereen Board of Guardians in reference to the appointments of Drs. O'Meara and Burke conjointly to the medical officership of the Union Hospital, stating that the appointment of a second doctor cannot be recognized until notice has been given to the Local Government Board that the guardians wish to create the position of a second physician with salary and duties defined; the Board, however, sanctioned the appointment of Dr. O'Meara as Medical Officer of the Workhouse at a salary of £50.

A good deal of discussion arose at a special meeting of the guardians, and eventually the following resolution was passed:

> That we refuse to recognize the action of the Local Government Board purporting to sanction Dr. O'Meara as medical officer of the Skibbereen whole workhouse, because he was never elected or appointed to that office by us. We believe that the action of the Local Government Board must be largely due to a misapprehension of our resolution of January 19th. 1910, because by that resolution (1) Dr. O'Meara and Dr. Burke were conjointly appointed medical officers of the workhouse with equal rights and privileges; and (2) that Dr. O'Meara was not elected senior, but styled such, because he was longer in the service of the board; and (3) that Dr. O'Meara was elected to the female department of the workhouse; (4) that the clear purport and intent of the resolution were that unless the Local Government Board sanctioned all the terms the whole arrangement would be void. That, therefore, we call on the Local Government Board to withdraw the sanction by which they purport to sanction Dr. O'Meara as medical officer of our workhouse, because said sanction is *ultra vires*. Meanwhile we adjourn the further consideration of the matter to our next ordinary meeting this day week. That we heard with surprise that Dr. O'Meara had intruded himself into the office and duties of the medical officer of the workhouse without any authority from us. That we appoint Dr. Walsh to continue to perform temporarily the duties of medical officer of the workhouse at usual remuneration till further order, and that we confer on him all the rights and authorities incidental to said office.

GAELIC LEAGUE AND DOCTORS.

The Skibbereen Branch of the Gaelic League is anxious that none but Irish-speaking medical men should be appointed to positions under the guardians. The Secretary of the League, in a covering letter, points out that, according to the census of 1901, the Union contained over 25 per cent. of Irish-speaking people, and that of the rural districts two had been reported as having no knowledge of English. In districts such as Cape Clear and the seaboard to the east of Glandore, Irish is still the everyday language of over half the population, and the committee felt the hardship that these poor people are put to in trying to make "to a foreign-speaking doctor" communications of such a private character as must naturally take place between physician and patient. The letter and accompanying resolution were marked "read."

# England and Wales.

[*FROM OUR SPECIAL CORRESPONDENTS.*]

## LONDON.

MEDICAL TREATMENT OF SCHOOL CHILDREN.

THE London County Council on March 1st formally approved the arrangements made by the Education Committee for the medical treatment of school children at the Hospital for Sick Children and other institutions (BRITISH MEDICAL JOURNAL, February 5th, p. 344); the scheme for the recovery of cost of treatment and the Hampstead treatment scheme, reported last week (page 535); the agreement with the Miller Hospital, Greenwich (BRITISH MEDICAL JOURNAL, February 12th, p. 408), and the provision of a special school for tuberculous children at Paddington. It was also decided to hold open-air schools in 1910 on the same sites as those utilized last year, namely, Birley House, Forest Hill; Montpelier House, Upper Holloway; and Shrewsbury House, Shooter's Hill. The appointment of Dr. Shrubsall as additional assistant medical officer (Education) was also approved.

THE HEALTH OF CHILDREN.

The General Purposes Committee reported to the London County Council on March 1st, at its last meeting before the election, as to the necessity which had arisen for the appointment of an officer to carry out the medical inspection of children attending public elementary schools, in accordance with the duty imposed on the Council by Section 13 of the Education (Administrative Provisions) Act, 1907. Subsection (1) of Section 122 of the Children Act, 1908, provided that "a local education authority may direct their medical officer, or his deputy, to examine in any school the person and clothing of any child attending the school." Subsection (7) of the same section defined the "medical officer" as being any officer appointed for the purpose of Section 13 of the Education (Administrative Provisions) Act, 1907, above referred to. The Education Committee inclined to the opinion that both the medical officer of health and the medical officer (Education) should be appointed. The General Purposes Committee considered this course to be hardly consistent with the principles upon which the Council's staff was organized, according to which the proper officer to be appointed would be the medical officer of health only, leaving it to him to delegate such duties as were best carried out by others. After communication with the Education Committee the General Purposes Committee had arrived definitely at the conclusion that the medical officer of health should be appointed, with powers of delegation to the medical officer (Education), and recommended the Council accordingly. The Education Committee, reporting concurrently, offered no objection, provided it was clearly understood that such an appointment did not prejudice Dr. Kerr's position as medical officer (Education), which was now recognized by the Board of Education. The Council adopted the recommendation.

We understand that some discussion has arisen between the various committees of the Council as to whether the health of the school children should be under the care of the Education Committee or of the Public Health Committee. The latter body has urged that the Londoner, from the cradle to the grave, should be watched over by one department, and that the authority of the Public Health Committee should not be interrupted, arbitrarily, for a few years during the school-attendance period, especially as the child is at school only five hours out of the twenty-four. It will be seen that the Council has to some extent endorsed this view. At the meeting of the Education Committee last week it was stated that the enforcement of the Children Act and the summary recovery of the cost of free meals was at a standstill because some London magistrates declined to recognize Dr. Kerr's signature on prosecution forms because his appointment had not been made by resolution of the Council.

## CUMBERLAND.

THE CUMBERLAND INFIRMARY, CARLISLE.

AT the annual meeting of the subscribers of the Cumberland Infirmary held under the chairmanship of the Bishop of Carlisle on February 24th, Dr. Henry Barnes, in seconding the adoption of the report which had been moved by the Chairman, announced that after mature consideration he had determined to resign the office of chairman of the Management Committee, which he had held for six years. During that period the financial position of the infirmary had been carefully investigated, and, partly owing to various economies and partly to the result of special appeals, it has been found possible to discontinue the practice of transferring legacies to the current account; further, in 1906 the financial position had become so satisfactory that it was determined to make some much needed structural alterations. A new boiler house for centralizing the heating and hot-water apparatus and new laundry and kitchen blocks had been completed, and a new nurses' home had been erected and was taken into use just before Christmas. A new ophthalmic department had been fully equipped and was occupied, and a bequest of £200 free of duty from the late Mrs. Whitehead had been appropriated for the *x*-ray department. In order to complete the scheme approved by the governors it was still necessary to erect a new west wing, and to extend the out-patient department, and the position of the building fund was sufficiently satisfactory to justify the committee in asking the architect to make an estimate. The Bishop, in the course of his address, spoke of the immense industry and earnest perseverance which Dr. Barnes had shown in improving the financial position of the infirmary, but expressed his regret that some of those who had been in the habit of subscribing had dropped off, and that others had reduced the amount of their subscriptions. It would be in his judgement nothing short of a disaster to the country if infirmaries, hospitals, and similar institutions became municipalized, in the way a large number of institutions originated and maintained by voluntary effort had now become part of the local charges upon the community or upon the commonwealth. While he hoped that no one desired to escape from the obligations of paying rates and taxes, such payment did not appeal to the same part of man's moral and spiritual constitution as the giving of voluntary subscriptions to benevolent and deserving objects. If appeals for such objects ceased, the benevolence and kind-heartedness of the community would become more or less atrophied. For the sake of the progress of the human race, for the sake of the development of the higher attributes and qualities of human nature, he most firmly deprecated the municipalization of medical institutions. It would have the further disadvantage that the doctors would be robbed of their opportunity of developing the generous side of their nature, and the medical profession might become mercenary—a calamity which would afflict both the medical profession and the community at large

## LIVERPOOL.

### HOSPITAL ANNUAL REPORTS.

THE annual reports of the Liverpool hospitals published up to the present show that there is no falling off in the extent either of the work done in them or of the financial support they receive. At the Infirmary for Children there has been an increase of 286 in-patients in the year 1909 as compared with the previous year, while there was an increase of out-patients amounting to 1,897. The former increase was due to the opening of an additional ward towards the close of the year 1908. A considerable portion of the increase in out-patients is attributed to the new system of school inspection. It was desired to open a fifth ward which is already built, but the financial situation does not at present allow this to be done.

The Northern Hospital shows a good record of work for the year, but has a debt of over £6,000. A marble bust of the late Mr. Benn W. Levy has been presented to the hospital by Mrs. Louis S. Cohen. For some time past the need of a second operating theatre has become apparent, and during the year the money required to adapt one of the existing rooms in the hospital was collected by Mr. Henry D. Behrend and Mr. R. W. Murray, F.R.C.S. The new theatre will soon be ready for use.

At the Royal Infirmary there was a considerable increase in the number of in-patients, due, apparently, to shorter periods of retention. The retiring president, Sir William Tate, Bart, presented £500 on the completion of his year of office. It is understood that the new out-patient buildings will be completed next November.

At the annual meeting of the Hospital for Women, Sir Charles Petrie, one of the speakers, said that he hoped that before long the committee would think of building a new hospital, as the present institution was altogether inadequate to accommodate all who applied for relief.

The Liverpool Dental Hospital is entering on its golden jubilee year, which will be celebrated by its removal from the old premises in Mount Pleasant to the spacious, convenient new building in Pembroke Place, close to the Royal Infirmary. At the annual meeting attention was drawn to the expansion of the work to be brought about by the operation of the Medical Inspection of Children Act. The Honorary Treasurer (Professor A. M. Paterson) presented the accounts. He said the hospital was the only dental institution in the district, and was indispensable. It was of incalculable benefit in relieving pain and protecting and improving the health of the community.

# India.

[*FROM OUR SPECIAL CORRESPONDENT.*]

### IMPERIAL MALARIA CONFERENCE, SIMLA, 1909.

*Publication of Proceedings.*

THE papers read at the Malaria Conference held at Simla last October, together with the debates thereon and the resolutions adopted, have just been published by the Government of India in a Blue Book of over 100 pages.

As each province of India was represented by a specially selected medical man, as well as by a member of the Indian Civil Service and an Indian member, the conclusions arrived at may be considered to be thoroughly representative of the experience gained in different parts of this vast peninsula. They are very comprehensive.

The first recommendations relate to the need of further systematic investigation into the distribution and epidemiology of malaria in each province and into the action of quinine. The compilation of vital statistics for smaller areas than at present is advised, to allow of the minute local distribution of malaria being easily recognizable, the figures of the returned fever deaths being checked by test inquiries in typical selected areas to determine how many of them are really due to malaria. Specially selected medical officers are to be appointed in each province to carry out the local investigations, and once a year they will meet the members of a central committee to compare results and prepare programmes of future work. The Government of India has already asked the local governments to select suitable officers, who will shortly attend a course of practical malarial work under Captain Christophers, I.M.S., one of the members of the Royal Society's Malaria Commission, which worked for several years in both Africa and India.

The practical measures recommended by the conference include extirpation of mosquitos by the use of all methods the cost of which is not prohibitive. The first of these is drainage, (*a*) by properly graded surface drains in urban areas where existing surface drains are found to be an important breeding ground of malaria-bearing *Anopheles;* (*b*) in rural areas by improved surface drainage and filling in depressions; and (*c*) under both conditions by lowering subsoil water when practicable at a cost which is not prohibitive, schemes being worked out for highly malarious tracts in each province. Wet cultivation to be prohibited in the vicinity of towns when it is proved to be a cause of malaria. Oiling to be restricted to small collections of water containing *Anopheles* which cannot be filled up or drained. Fish to be introduced into larger collections of water to check the breeding of *Anopheles*.

Quinine treatment and prophylaxis is dealt with, the recommendations of a subcommittee regarding the forms and doses to be employed having been adopted. A system of selling quinine by "treatments," strongly advised by the Assam delegates, as well as by the dose as at present, is to be introduced. The principle is that enough quinine to cure an actual attack of fever is to be sold in a single packet, together with printed directions for its use. The pice packet containing a single dose is to be retained for the sake of the very poor who cannot afford a full "treatment." The agencies through which quinine is sold will be greatly extended and a liberal commission allowed to the vendors. In backward districts itinerant dispensaries will disseminate knowledge of the value of quinine treatment and prophylaxis. Special educative measures will also be adopted, including lectures and leaflets, under the control of district committees such as have been of great service in some of the Punjab districts. Every local government is invited to make a special allotment of funds each year for investigation and for the application of preventive measures relating to malaria. The conference further urged that malarial measures should have a strong claim on all surpluses and increases of revenue.

Altogether the resolutions cover the ground in a satisfactory manner. The formation of a special organization, with a permanent trained medical officer in charge in each province, is a great step in the right direction, as hitherto malarial inquiries and test preventive measures have been spasmodic and lacking in continuity, different medical officers having each year been sent by the Government of India to a new province, of which they had no previous experience, and set to work to inquire into malaria in a given district, often during the non-malaria season. The yearly conferences of the local officers will enable notes to be compared, while if they meet in different provinces, and not always in Simla, they will be able to see for themselves the progress made under various conditions of work.

The question will naturally be asked, Why was not all this done long ago? In fairness to the Government of India it must be admitted that its strictly limited administrative staff have had their hands more than full, during the decade which followed Professor Ross's brilliant discovery, with a titanic struggle with a terrible epidemic of plague; but for that calamity doubtless the ever-present malarial problem would have earlier received the attention which is at length being directed to it. The recent conference bids fair to be a turning-point in the history of antimalarial measures in India.

# Special Correspondence.

## BERLIN.

*Scientific Cinematographs.*

"CINEMATOGRAPHY Applied to the Service of Science" was the title of a demonstration given for medical men and women in the "Empress Frederick House for medical post-graduate teaching" on February 22nd. Long before the hour fixed for the opening of proceedings the amphitheatre was crowded, so that the specially invited guests—among whom was Robert Koch, apparently hale and vigorous as ever—found it difficult to get to the seats reserved for them, and Professor Kutner, head of the Empress Frederick House, had to use all his powers of persuasion in order to induce the members, who kept besieging the doors long after every place inside was full, to retire and exercise patience for another ten days, when —so he assured them again and again—the demonstration would be repeated.

All the Berlin medical institutes and establishments, the Medical Department of the Prussian Cultus-Ministry, the Imperial German Board of Health, were represented in the audience, and very probably there was hardly one among them who did not feel his memory stirred when, after a few introductory words by Kutner, the first picture was thrown upon the screen. At the operating table stood von Bergmann, "in his habit as he lived," attended by his assistants, proceeding to the amputation of a foot. The operation lasted about ten or twelve minutes, and its cinematographic presentment was of such amazing clearness and steadiness, and so free from the usual flashes and breaks of continuity that its progress was watched with almost breathless attention.

Then followed a laparotomy by the French surgeon Doyen, reproduced with similar success. Doyen was one of the first to recognize that the cinematograph, which at first had been looked upon as no more than a scientific toy, might be developed into an educational factor of the highest value. By studying the films of his own operations, Doyen became aware that many movements he made were superfluous and time-wasting, and by dint of close observation he succeeded in materially simplifying his methods.

A birth, from its first stage, was then shown; and after this the process of lactation. Then Dr. T. Fraenkel gave some demonstrations from the domain of orthopaedic surgery, and of special gymnastics in scoliosis. Dr. Braun (Vienna) showed the impulse of the heart's apex; a set of films by Professor Cavallo (Paris) showed gastric and intestinal peristalsis in a frog; Professor Rieder showed his films of the human stomach during digestion, and of heart and diaphragm movements during respiration. Heffter, the new professor of materia medica in the Berlin University, roused the liveliest interest and admiration by a series of films showing the toxic action of quinine and nicotine with the antagonistic effect of muscarine-atropine, and also the action both of chloroform and of strophanthin on the frog's heart.

Finally, Dr. Reicher demonstrated microscopic living pictures in the enormous enlargement of the lantern lens. Before the eyes of the spectators cultures of bacteria grew on their nutritive media; typhus bacilli, cholera bacilli, and coli bacilli gambolled about the field; and the trypanosomes of sleeping sickness wriggled in and out of cultures and blood. These remarkable sets of films, the first of the kind yet shown in Germany, had been made by help of microscopic apparatus specially constructed for the purpose by Zeiss of Jena.

## BUDAPEST.

*Lumbar Anaesthesia.—Death of Dr. Niedermann.—Lithia Waters.—Post-graduate Courses in Hungary.*

DR. KÁROLY BORSZEKI, Lecturer in the University of Budapest, has recently published (*Orvosit Hetilap*, January 23rd) his experiences of spinal anaesthesia. Among his conclusions are the following: With the technique now available spinal anaesthesia must be considered as less dangerous than any other method of anaesthetization. The domain of lumbar anaesthesia is the region below the umbilicus; all methods which tend on the extension of the narcosis to operations above that level, are dangerous whatever anaesthetic may be used. The greatest disadvantage of the method is its unreliability, which makes it unsuitable for use in general practice.

Dr. Julius Niedermann, one of the best psychologists of Hungary, recently died in his 71st year. He had been Director of the lunatic asylum at Lipót-mezö, the largest in Hungary, and whatever progress in the treatment of insanity has been made in Hungary during the past four decades is mostly due to him. He was the first in this country who proposed the discontinuance of the strait waistcoat. He also initiated the individual treatment of patients. What this means can be properly understood only by one who knows the overcrowded wards of the Lipót-mezö Asylum. On his initiative several new modern lunatic asylums have been built. He introduced into Hungary the family-care system of attending lunatics. He was popular alike in the highest and in the humblest circles. Our late Queen used to visit him during her solitary walks in the park surrounding the asylum, and Her Majesty was often deeply touched on seeing the proofs of attachment felt for him by his patients.

Hungary, as generally known, is very rich in mineral waters. In fact, we can say that we supply the world with aperient waters. But, besides these, we have excellent lithia waters. But the owners cannot even afford to equip their springs with modern machinery for bottling, etc. Lately several new lithia springs have been discovered, which all contain more or less lithia. However, the words "lithia water" are so freely used in Hungary and the neighbouring countries, that now even waters which contain mere traces of lithia are advertised under that name. This fact has induced the President of the Hungarian Balneological Society to endeavour to have the unjustified use of the word "lithia" forbidden by law. In his memorandum he says: "This element, as is generally known, occurs in many natural mineral waters in the form of hydrocarbonate and chlorate of lithia, but quantitatively it never forms the chief constituent of these waters. If, however, the carbonate of lithia can be shown by analysis to be present in a quantity of 2 to 3 cg. (half a grain) in 1 litre of water, this fact may be mentioned in the analytical report for the characterization and for estimation of its therapeutic value, just as the fact that a water contains iodine, bromine, or other rare salts. This fact alone, however, does not determine the value of a mineral water, because the therapeutic value and action of a natural mineral water is manifested not only in the several constituents present in minute quantities, but depends on all the constituents as well as on their relation to each other. To-day it is a generally accepted opinion that every mineral water must be regarded as a separate compound, for two absolutely similar waters do not exist; consequently, the action of two mineral waters, too, cannot be equal, and if taken rigorously we ought to study and prove the action of every mineral water separately. If, therefore, a certain mineral water contains lithia among other constituents, it is not proper to put forward this constituent and call it a lithia water. In order to prevent the misuse of this name I propose to have a legally protected standard of the amount of lithia contained in each water."

On the initiative of Count Albert Apponyi, late Minister for Public Instruction, a post-graduate medical school has been established in Hungary. The movement has been set on foot in consequence of a resolution passed by the International Committee of Post-Graduate Education of the Sixteenth International Congress that support should be mutually given by different countries to post-graduate education. Count Apponyi expressed a preference for the German system, where the function of the central institution is extended to the provinces. He has charged Professor Emile Grosz with the task of carrying the plan into execution. Dr. Grosz has convoked the Professorial Board of the University, and in setting forth the scheme he said that in Hungary since 1883 the summer vacation courses were the only means providing for the further education of doctors. During the last twenty-five years fourteen courses had been held, which had been attended by about 1,000 physicians. They had been given by some 300 lecturers, and the fees had served only to cover the expenses.

He went on to say that the progress of medical science required not only the aid of voluntary enterprise on the part of the teachers, that not only every fiftieth doctor should have the opportunity of post-graduate study, but this opportunity should be granted to all every five years. He urged that post-graduate instruction should be made compulsory. A central organizing committee has been formed, the members of which are the professors of the university and the directors of the hospitals. The work of this committee will be: (1) To arrange courses of revision lasting two weeks for country doctors; these are to be held in university towns, and primarily with the co-operation of university lecturers. (2) To arrange longer courses in larger hospitals for practitioners in towns. (3) To arrange courses for sanitary officials and army medical officers. The members of the committee are Professors Emile Grosz, Baron Alexander Koranyi, Leo Liebermann, Baron Coloman Mueller.

## VIENNA.

*The Housing Problem.*

THE problem of providing healthy dwellings for the ever-increasing population of this city has given much trouble to the authorities. Quite recently a series of regulations was drawn up by a committee of architects and medical men and presented for approval to the building section of the town council. The principal points were: A fixed maximum of air space of at least 2,000 cub. ft. per room for each inhabitant. Every inhabited space must have windows admitting *direct* light and air from the street or garden or yard, which latter must be at least 12 yards by 8 in dimensions for a two-storied house, or 13 yards by 12 for a three storied house. Overcrowding (more than the above-mentioned air minimum) to be prevented by special rules as regards sub-letting; the width of streets to be built in future should not be less than 10 yards, or equal at least the height of the houses. Compulsory weekly cleansing of all water-closets by servants of the landlord, and separation of kitchens from the vicinity of the closets. But the proposals of the committee were rejected by the majority of the town council, which consists mostly of landlords. But the reform is bound to come some time.

# Correspondence.

## THE DANGERS OF ARYLARSONATES.

SIR,—In December, 1908, I read a communication at the Medical Graduates' College and Polyclinic, in which a series of twelve cases of syphilis treated by arylarsonates were brought forward. The success of the treatment induced me to continue it, and to recommend it until the middle of last year, when an untoward occurrence compelled me to abandon it, and to regret that I had ever advocated it. A syphilitic patient was treated with injections of orsudan* (Burroughs, Wellcome, and Co.), and at the end of the course of ten injections of that substance, given in 10-grain doses on alternate days, he suddenly became blind, and was found to be suffering from double optic atrophy. This naturally caused me to abandon the treatment at once, and subsequently to make inquiries as to whether any similar disaster had occurred to others. A second case has recently come under my notice in which a syphilitic patient also became blind after a course of about fifteen injections of 5 grains of soamin (Burroughs, Wellcome, and Co.). A third case is that of an elderly patient, with marked arterial degeneration, who was put on a course of injection of soamin (Burroughs, Wellcome, and Co.) for sciatica, but who after the introduction of about 60 grains also met with a similar fate. I am also cognizant of a fourth case, in which a patient suffering from lymphadenoma was treated with soamin (Burroughs, Wellcome, and Co.), and became totally blind.

It is inexpedient to enter more fully into the history of these cases, and I should not have written this communication had not I recently received from Messrs. Burroughs, Wellcome, and Co. a pamphlet commending their preparations, soamin and orsudan, and reproducing amongst others the cases I originally described. In this pamphlet a casual mention is made of the fact that signs of intolerance had been met with after the use of soamin, such as "visual disturbances, nausea, vomiting, gastric pains, dermatitis, nervousness, and insomnia," and that "the appearance of any of the above symptoms should be a signal for withholding the drug." This is the only warning note in this pamphlet, though the manufacturers, through one of their representatives, had been informed by me of one case of total and irremediable blindness which had occurred after the use of orsudan, and knew that I had abandoned the treatment on that account.

Further, in the BRITISH MEDICAL JOURNAL of January 22nd, 1910, Drs. Lundie and Blaikie describe a case of total blindness following upon a course of soamin, and the possibility of causing optic atrophy by the use of that substance is alluded to. In the *Lancet*, vol. ii, 1909, p. 1196, Dr. Bagshawe writes:

> The arsanilates, and especially atoxyl, are not without their dangers; there are many recorded cases of blindness following the use of atoxyl. . . . It seems that loss of vision is less frequent, if it occurs at all, after the use of soamin, which has of course a chemical formula identical with atoxyl.

There was, therefore, in the medical journals some indication that these drugs were not quite so innocent as they had been depicted. In the strict sense of the word, I suppose that total and incurable blindness may be termed a "visual disturbance," and my only object in writing is to point out to your readers the possible gravity of that "visual disturbance" and to put them on their guard against such a disastrous occurrence.—I am, etc.,

London, W., Feb. 21st. J. ERNEST LANE.

* Orsudan is 3-methyl-4-acetylaminophenylarsonate. It is more soluble, and its solutions are stated to be more stable, than those of soamin, which is sodium para-aminophenylarsonate.

## CANCER OF THE CERVICAL OESOPHAGUS.

SIR,—In the JOURNAL of February 12th (p. 363) appears a suggestive clinical lecture by Mr. Morriston Davies dealing with primary cancer of the cervical portion of the gullet, and recording three cases in which the cervical oesophagus was cut into by an external incision. The results were not only as unsuccessful in effecting a lasting cure as most if not all previous efforts in this direction, but were more than usually disastrous as regards the immediate mortality, for all the patients died within a few days from the operation. The mortality of mere external cervical oesophagotomy for stricture is admittedly high. Gottstein, writing in 1906, put it at somewhere between 45 and 60 per cent., whilst the operation for *resection of a portion of the cervical oesophagus alone for primary cancer* had no lasting success to its credit down to 1903, although, according to von Hacker, at least 15 such operations had then been recorded; 5 of these patients died from the effects of the operation, and the others succumbed at varying periods from imperfect removal; 3, however, survived for about one year. It is possible that statistics up to date might bring to light one or two real cures, but Mr. Davies is ominously silent on this point.

In view, therefore, of the immediate danger of mere external oesophagotomy, and, further, of the unpromising outlook of the operation for curing a limited primary cancer by excision, many will doubtless be staggered to find that Mr. Davies teaches his students that

> as soon as the condition is diagnosed operation should be undertaken in order at any rate to attempt to excise the growth, instead of waiting until the patient is reduced by the increasing difficulty in swallowing and then doing a gastrostomy, as too often happens.

Now, the soundness or otherwise of this teaching entirely depends on the value attaching to the expression, "as soon as the condition is diagnosed." If the disease has been carefully diagnosed by means of a complete endoscopic examination, and found to be almost certainly well within the limits of the cervical oesophagus, the rest of the viscus being apparently healthy, then Mr. Davies's advice to operate would, it seems to me, be within the range of justifiability, in spite of the unpromising results hitherto recorded. Desperate conditions justify desperate measures, provided always that every precaution be taken to avoid errors in diagnosis and in technique. If a thorough oesophagoscopic investigation showed that the disease appeared to be operable, the surgeon would be justified in advising a patient to take the 1 in 2 or 1 in 3 chance of

surviving the immediate operative risks, provided there was a chance of a radical cure of this otherwise incurable condition.

Everything, therefore, turns on the thoroughness of the diagnostic method employed, before resorting to operative exploration, to determine whether there is every probability that the disease is limited to, say, the middle two-fourths of the cervical oesophagus, the rest of the tube being apparently free from disease when carefully inspected by means of the oesophagoscope throughout its entire length. This means that the only cases in which a fairly accurate diagnosis can be immediately made are those in which the lumen of the tube, though narrowed, is still sufficiently large to allow of the safe passage of a small oesophageal tube through the cancerous area, in order that not only the upper limits of the disease shall be accurately determined, but also to determine the lower limits of the growth, and, in addition, to make certain that there is not another cancerous lesion considerably lower down the gullet—a by no means very unusual complication.

If the cervical stricture is so tight that a small endoscopic tube could not prudently be passed through it, there is a strong presumption that the case is not capable of being dealt with radically by resection; this presumption becomes a certainty if the stricture is dilated immediately by graduated bougies through the endoscopic tube, so that bougies of 7, 8, or 9 mm. diameter are passed and strike another stricture lower down. Even if they do not reveal a lower stricture sufficient to arrest their passage, a presumption of further disease can usually be inferred from the eructation of a large quantity of frothy mucus with small bubbles. The presence of such a second stricture can sometimes actually be demonstrated by observing the passage of bismuth porridge with the aid of the *x* rays.

Supposing that none of these positive signs be evident we are not entitled to exclude early disease lower down the tube, as it may not be so advanced as to cause definite stricture. Oesophagoscopy alone can help us in excluding slight lesions lower down, and an attempt should be made to increase the lumen of the stricture to such an extent as to render oesophagoscopy, by means of a small tube, possible. Sometimes this can be accomplished by immediate dilatation with bougies after applying cocaine and adrenalin; but should this method fail there are other measures by which the lumen of a cancerous gullet may sometimes be temporarily enlarged to such an extent as to render possible the passage of a small endoscopic tube. These methods are all uncertain, and include the application of radium and of the *x* rays, the internal administration of potassium iodide, and the subcutaneous injections of *neoformans* serum, of fibrolysin, of iodopin, etc. In my own practice I have relied entirely on radium for this purpose, using formerly a silver tube containing 50 mg. of pure radium bromide, but latterly a platinum tube containing 63 mg. The time dose has varied in the 10 cases that I have thus treated (in conjunction with Dr. Finzi) from three hours at a sitting, using either a silver or platinum tube-screen $\frac{1}{2}$ mm. thick, to seventeen hours with a lead screen 2 mm. thick. In none of these cases was the cancer limited to the cervical oesophagus, but in 4 of them a tumid stricture impermeable to the endoscopic tube has been rendered permeable by radium treatment; and in 3 others the dysphagia was markedly relieved. In most cases more than one application is necessary, and on some lesions, more especially on some squamous epitheliomas, radium has no appreciable effect.

These methods of diagnosis for ascertaining the limits of the growth are very different from the practice of Mr. Davies, who is content with such an oesophagoscopic examination as enables him merely to see "the form and extent of the upper extremity of the growth and its nature, though not its actual length." To decide on external operation on such insufficient grounds is, it seems to me, to court frequent disaster. The only possible chance of success in this practically unconquered region of surgery depends on the most careful selection of cases based on an expert endoscopic inspection of the entire length of the gullet.

Mr. Davies's courage and admirable frankness in publishing for the assistance of others his initial mistakes and failures is worthy of more frequent imitation, and I trust that his surgical efforts in this difficult region will ultimately be rewarded by the achievement of a lasting cure.—I am, etc.,

London, W., Feb. 28th. WILLIAM HILL.

## OPERATIVE TREATMENT FOR HAEMORRHOIDS.

SIR,—I do not wish to enter into controversy as to the relative merits of different operations for haemorrhoids, for I am of opinion that under certain circumstances each of the three main methods has certain advantages over the other two. But, as I have recently read in your columns considerable adverse criticism of Whitehead's method, which comes chiefly from surgeons who do not practise that method, I should like to add my testimony in support of those who, practising the operation, have written in its favour.

Since 1902—when I first learnt Mr. Wallis's method—I have performed the operation, and seen it performed by Mr. Wallis, a good many times—though using the methods of ligature and clamp and cautery as well—and I have followed up in the out-patient room at St. Mark's a large number of patients who had undergone Whitehead's operation.

The majority of the operations performed by Mr. Wallis and myself come to my out-patient room for inspection afterwards. So far as I have been able to judge, it seems to me that this method not only offers a certain cure, but that it offers a more certain cure in severe cases—especially those which are associated with prolapse, fissure, or submucous pouches — than other methods. There is no reason why it should be attended with harmful results. I have never seen recurrence of haemorrhoids after Whitehead's operation, though several after ligature, nor have I ever known any permanent ill effect to follow this method. It may sometimes appear that there is a stricture of the anus after this operation, but a careful examination will always reveal that there is no pathological stricture, but simply a small anus which performs all its functions to the satisfaction of the patient. It may doubtless be admitted that this operation requires some rather special knowledge of its principles, and some very special experience in its practice, as well as special skill in its after-treatment. It may, therefore, not be everybody's operation.

It is difficult to know on what criteria the merits of any particular method of operating are to be judged, without considering the personal factors of the patient and the operator, and also the after-treatment adopted. Failures and recurrences do not always return to the operator. Surgeons have been known to assert that they seldom see recurrences after their own particular method of operation for the radical cure of hernia, but the surgeons of the Truss Society can tell a different tale.

Any one who, like myself, has performed a large number of surgical *post-mortem* examinations at a large hospital, knows that it would be easy to make out a case against almost any operation by using the failures as a lever for wholesale condemnation of the operation "as the worst ever invented."

Mr. H. G. Anderson, a former house-surgeon at St. Mark's, has published[1] a very careful analysis, based on 500 cases of ligature, Whitehead's operation, and clamp and cautery, which came under his care. He has tabulated and criticized very carefully the immediate after-history of these operations. This table forms some basis for comparison and discussion, and should be carefully studied by those interested in the matter.—I am, etc.,

London, W., Feb. 23rd. C. GORDON WATSON.

SIR,—I have read with much interest the discussion on this subject. If my memory serves correctly, a similar discussion occurred in this JOURNAL or in the *Lancet* some ten years ago. The impression left on my memory on that occasion is that the advocates of the operation of ligature came off the best, owing to the able support of the late Mr. Allingham who was a great exponent of this method.

I must admit that the discussion to which I refer did not alter the opinion I had formed as to the merits or demerits of either Whitehead's operation or of the opera-

[1] BRITISH MEDICAL JOURNAL, October 30th, 1909, p. 1276.

tion of ligature. In my opinion I consider we must be guided by the condition which we find when we come to perform the operation; if there are several localized piles, but the intervening mucous membrane is healthy, then I think the ligature, clamp and cautery, or some other method, such as Ball's, gives a perfectly satisfactory result. When, however, the piles are more diffuse, and there is little or no healthy mucous membrane, then I am equally convinced that the ligature is not such a satisfactory method, such a case can only be treated in a radical manner by completely removing the whole ring of affected mucous membrane; if this is done in a competent manner, then I submit with Mr. Wallis that such an operation is permanently curative. I also agree with Mr. Wallis in not regarding the ligature as a radical method, as it leaves untouched a considerable portion of the mucous membrane beneath which the veins may at a later date enlarge and develop into piles, and I have met with several instances in which it has been necessary to perform a second operation.

I cannot understand the limited view of those surgeons who condemn an operation which on their own statement they do not perform. I should have thought that every surgeon had seen failures or indifferent results from every surgical procedure, however simple, and I, for one, am not surprised to hear that this is sometimes the case with Whitehead's excellent method, as it is by no means so easy to perform as the ligature. It has not been my lot to meet with a failure in an experience of over 100 cases, and I have tried to follow up my cases for a lengthy period after the operation.

I have never met with stricture of the anus as the result of Whitehead's method, which, in the experience of those who are opposed to the method, is not infrequent; but I have no doubt that such may be the result if the operation has been improperly performed. The only case of post-operative stricture I have seen resulted from the ligature, and was no doubt due to the too free removal of the mucous membrane.

The operation I usually perform for localized piles differs to some extent from the ordinary operation of ligature in that I excise the pile vertically and suture the edges of the mucous membrane with catgut, which I think has the advantage of more securely arresting the bleeding and facilitates rapid union as the edges of the mucous membrane are approximated. In my opinion, many cases can be treated satisfactorily by the ligature, while there are many others in which ligature would be a very imperfect operation; they can only be dealt with properly by Whitehead's operation.—I am, etc.,

London, W., Feb. 27th. DOUGLAS DREW.

## APPENDIX DYSPEPSIA.

SIR,—I am greatly surprised by Dr. Roberts's statement (BRITISH MEDICAL JOURNAL, February 19th, p. 473) concerning the case of Mrs. D. from Valparaiso. It is, indeed, exceedingly unfortunate that among the great number of indubitable cases of appendicitis larvata recorded by myself and many others (Sonnenburg, Lenzmann, Cotard, Dieulafoy, Korach, Walther, etc.) I should have chosen this very case "as of special interest for British readers," which has apparently ended differently than I believed. My error is due to the following circumstance. When I last saw Mrs. D. before her operation I asked her to let me know in case her complaints should return later on. A short time after the operation her husband kindly wrote to tell me that Mrs. D. was quite without pains. Since then I heard nothing, and believed myself justified to assume that her state had remained satisfactory.—I am, etc.,

Berlin, Feb. 26th. C. A. EWALD.

## NURSING HOMES FOR THE MIDDLE CLASS.

SIR,—As one who has been associated with Dr. Chalmers Watson for some time in the management of the Rutland Nursing Home in Edinburgh, I have been interested in reading Dr. Ford Anderson's letter (p. 540) bearing on the proposed scheme for a pay hospital in Edinburgh for the middle class.

Dr. Anderson has doubts about the advisability of some of the details of the scheme. There may be other people who, like him, take a friendly interest in this movement, and I shall be glad if you will allow me to reply to some of his objections.

With regard to position, Dr. Anderson fears that a centrally placed pay hospital or home could not be utilized by general practitioners who live beyond the radius of one mile away from it. This fear seems to me groundless. In Edinburgh general practitioners daily cover a much larger radius than that of a mile from the centre of the town. Moreover, this scheme has been discussed by general practitioners on several occasions, and the desire to have the proposed home in as central a position as possible has been unanimous. Further, much of the work done in the home will be operative, and it is considered advisable to have the building within easy reach of those who are likely to have the responsibility of the after-treatment of such cases during their anxious stage.

Dr. Anderson thinks that the Rutland Home might be allowed to continue as it is, while others like it might be opened in the suburbs. Those responsible for its management, however, merely look upon the present establishment as a successful experiment. Many improvements, which are considered necessary, can only be carried out in a larger and better equipped home.

The proposal to have a certain number of beds at £1 1s. a week is considered by its promoters to be an important part of the scheme, but many of the details connected with the organization of the home are still under discussion.—I am, etc.,

Edinburgh, Feb. 27th. CHARLES W. CATHCART.

## GENERAL PRACTITIONERS AND POOR LAW REFORM.

SIR,—Dr. P. R. Cooper, in a letter appearing in your issue for February 19th, seems to have hit on what will probably be found to be the only rational reply that the medical profession can make to the persistent demands of sets of individuals and friendly societies, and now of the State, that we should undertake the medical supervision of the working classes at nominal charity fees. What is that reply?

Dr. Chas. E. S. Flemming states in your last issue that the Central Contract Practice Committee of the Association gave Dr. Cooper's proposal much careful consideration, but apparently was unable to find any working scheme.

If our Association does not again, and very shortly, tackle this problem in a masterly way instead of endorsing with its approval clubs run at charity fees, it is most certainly true that within a few years, beyond being useful for the unpleasant duty of settling a few internal quarrels and throwing itself hopelessly against vested interests, the Association will be no catch for the general practitioners, and they will do well to leave it severely alone.

It might be desirable to quote at once this axiom, "that the true interests of the community and those of the medical profession invariably coincide" (interim report of Poor Law Reform Committee).

Take first *the interests of the community* with regard to medical services. Are they not these?

(*a*) That each person should be able to be insured, or to insure himself, against the probability of medical expenses.

(*b*) That no one should be barred from this benefit because of his age, family history, financial position, present or past health, or occupation.

Then take *the interests of the medical profession:*

(*c*) That the payment for medical services should be adequate and in accordance with the professional services rendered.

In order to decide what is "adequate" it would be necessary to take into consideration in each case all the subheads in statement (*b*). In order to elaborate "professional services rendered" it would be necessary to state as shortly as possible in list form all the more probable medical and surgical services. This has been done partly in the Public Medical Service Rules recently issued to the Divisions for consideration.

It might be said that such a table would be bulky and complex, and therefore unworkable. But this should in practice not prove so. Any actuary would be able to prepare a concise, easily workable scheme when given the necessary data. One need not, however, burden this letter with the possible solutions of this portion of the problem.

Having the interests of the community and of the medical profession defined, how is it possible to make the two coincide? Before doing this, it might be useful to

show under what conditions they cannot be expected to coincide. Shortly they are:

1. By unduly insisting on an "age limit" and a "wage limit" without defining clearly what it meant, while at the same time totally ignoring most of the other subheads to (*b*) above.
2. By the willingness of general practitioners not only to become individually an insurance company (without having any capital formed of premiums paid and transferred from a previous medical insurance man; without knowing the acturial value of the services agreed to be given; without having any ordinary business training fitting them to meet members of the business community on their own level), but also to accept premiums far below those any lay insurance company would accept for similar requirements.

If we look at the Majority Report on the Poor Law (Part IX, Section 120), we find this question: Taking a man aged 21, in good health and employed in a healthy occupation, what premium should be paid a week, in case he fell permanently ill, next week, in order to be able to receive 10s. a week for twenty-six weeks and 7s. 6d. a week for the rest of his life up to 65 years of age? The actuaries asked replied, "Between 3½d. and 4d. a week."

Now these receipts by the man if averaged out would be about what a general practitioner should expect to receive for attending one who is evidently a working-class man. And yet a general practitioner would cheerfully accept a penny a week as premium, issue his policy accordingly, and if he leaves the district transfer the client, keeping for himself not only all the back paid premiums but accepting a bonus as well, although the man may never have been ill up to that date. Such a state of affairs surely shows how the interests of the medical profession and the community cannot be expected to coincide, and therefore that such a scheme of insurance is rotten.

Now can these two classes of interests be made to coincide? The following are suggested as a possible means:

1. The premium to be charged a client should depend on his age, family history, financial position, present and past state of health, and occupation.
2. The premium when settled should not be received by the doctor, but be pooled in some central fund.
3. The insured should also have to place, or have placed for him, in this central fund, but in a separate account, so much a week as private deposit account.
4. The doctor when called in would be paid fees already approved and sanctioned by both parties and dependent on the patient's financial position and the detailed scale of charges for services to be given. The payee of the premium selects the doctor.
5. Part of the fee paid to the doctor would be drawn from the deposit account. This would prevent collusion between the patient and doctor to run up a bill.
6. The control of such a scheme should be in the hands of a central public medical service for England, with local committees; the scheme allowing of transferrence of a member from one district to another without loss of benefits.
7. Such a service the Association with its Branches and Divisions could well inaugurate. Without central help and control, however, no scheme would be launched or prove successful.

It will be seen that this scheme touches on that of the National Deposit Friendly Society.

If such a scheme were in working order, the reply that the general practitioners could give to friendly societies and to any local borough, county, or State body would be: "We will take over the medical care of any one—rich, poor, or pauper—that you like to ask us to look after. We don't care how or by whom the premiums are paid so long as they are paid, and on our scale. These are our terms, and they must be paid; for we intend that the doctor selected shall be paid adequately, and in accordance with the professional services he may have to render."

Can the general practitioners rouse themselves sufficiently to combine now in order to save themselves; and will the Association give up blessing cheap charity club practice and help them? Most certainly, if they do not, then, seeing that social reformers are determined to reform, if not to break up, the Poor Law, and will brush them on one side in forming their plans, it will be their own fault if they and their successors, finding that all receiving wages of £5 and under are in a State-managed invalidity insurance club, become a miserable, poorly-equipped, poorly-paid, looked-down-on crowd of harassed and bullied diagnosticians and dispensers with one foot in the bankruptcy court.

The Majority Report asks, Shall a large place be given to voluntary institutions and voluntary arrangements for the providing of medical attendance on the working classes and those below them?

The Minority Report asks, Is medical treatment of sickness or disease so vitally and peculiarly important from a public point of view that it ought to be taken over by a Public Health Department of the State, largely to the obliteration of the distinction between the public and private doctor?

What will the general practitioners reply?—I am, etc.,

London, S.W., Feb. 26th. E. ROWLAND FOTHERGILL.

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SIR,—Dr. Flemming asks me to give reasons why there is a far greater responsibility in the medical care of the destitute than in other kinds of medical practice. As he is a Poor Law medical officer, I am somewhat surprised at the question. Has he forgotten that there is a case on record of a district medical officer being convicted of manslaughter for having neglected to attend to a pauper patient, who had repeatedly sent for him in vain, after he had received the legal order. In the trial it was held that the patient could send for no other doctor, so that a very different responsibility rested on the Poor Law medical officer to that arising in the ordinary relation between doctor and patient? Does Dr. Flemming think that such a responsibility is adequately paid for at the same rate as is paid by an ordinary provident dispensary patient?

It may be that under a reformed system such a responsibility is to be abolished. Indeed, under the recommendations of the Majority and Minority Commissioners, it is difficult to see how the future Poor Law medical officer could be convicted in this manner; and if in the future neglect of a State patient is to rank *pari passu* with neglect of an ordinary patient, I may be unable to maintain my contention, but I was assuming that the destitute poor in the future would obtain the same protection as they have enjoyed in the past, and our ancestors, in my opinion very wisely, thought that in the interests of the destitute a very different degree of responsibility was desirable.

Dr. Flemming further says that I bring forward no argument against the choice of doctor by a pauper than supporting that of the Minority Report. Are any further arguments necessary? I think not. Dr. Flemming thinks it is not flattering to Poor Law medical officers. I would rather say not flattering to human nature. Our Association does not object to the principle of "payment for work actually done," if it could be properly ascertained and was not open to so much abuse. It has been for generations the dream of all Poor Law medical reformers. In my opinion, the payment partly by fees and partly by salary is best in the interests both of the public and the Poor Law Medical Service. I cordially agree with Dr. Drage that it is the administration and want of co-ordination in our present system that is chiefly to blame for most of the evils we suffer from.—I am, etc.,

MAJOR GREENWOOD,
Honorary Secretary Poor Law Medical Officers' Association of England and Wales.

London, E.C., Feb. 26th.

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## PART-TIME MEDICAL OFFICERS OF HEALTH.

SIR,—I so wholly agree with Dr. Larking's sentiments on this matter that I cannot help saying that it appears to me that many medical officers of health lose sight of the fact that theirs is a speciality, and in the usual course of their work, to speak and act in a totally unbiassed manner is quite beyond the morals of ordinary men; interests are far too conflicting, and the paltry income derived from any part-time medical officer of health appointment is so wholly inadequate to the needs of the case as to be negligible.

Take, now, a not uncommon case. An appointment falls vacant: many local men apply, all well-known and appreciated; a stranger, perhaps almost unknown, is appointed. As soon as the appointment is made the new man begins practice under one guise or another (he is almost sure to be impecunious); he works privately for about half fees, and he gradually undermines some of the practice of the regular practitioners who applied for the appointment and knew local conditions. Now, is a medical officer of health such as this to be permitted any longer as a part-time man—part-poacher, one might say?

The secret and essence of the whole matter lies in practitioners offering costly service for a mere song.

I maintain that the time is ripe for a very careful and complete organization of all the members of the British Medical Association for one common purpose—namely, the systematic rearrangement of fees for the medical working of all provident societies and the limit by wage of those entitled to benefit. For years I have given the matter careful consideration. I find the lowest fee per head should be 8s. 6d. per annum, and that for well-selected lives only; others of an indifferent kind should be super-rated up to twice the amount.

It is idle to talk of fees such as these pressing heavily on the working class. Is the equivalent 2d. of a glass of indifferent beer a week going to handicap any man or any wealthy society, such as the Foresters or any money-making machine, with the unlucky medical man grinding out the time at his own expense?

I have seen many attempts and schemes proposed for dealing with these abuses, but none have fructified as yet. —I am, etc.,

Hartland, Feb. 25th. A. L. MARTYN.

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SIR,—The allegations that are being made against a large body of practitioners who hold these appointments, I feel sure, will do more to damage the list of members of the Association than anything that has ever taken place. The vote of the Divisions in favour of full-time men holding these appointments solely without private practice will flood every district with gentlemen who will only hold the appointments until they see a good opening to start on, or until they can obtain another post with more salary. Again, they could not live upon the salary that is given to a general practitioner who has done the work for many years. The vote given at the Divisions is not the voice of the profession of the district; as any one acquainted with the Association knows very well, not half the meetings are attended by the members. The Divisions are mostly governed or ruled by cliques. Many of my acquaintances have never attended one single meeting.

Again, Dr. Larking states that the part time medical officer cannot make water analysis, statistics, etc. Let me inform him that I, like many other men, have purchased every chemical apparatus necessary, and consider myself not boasting when I claim to make such analysis quite as well as any chemist. Yet, if he does not choose to go to this expense, let him purchase Dr. Thresh's little book, follow the directions given therein, but I grant he will require a little practice to become proficient. The plain facts are that those practitioners who have never studied hygiene are really jealous of one who holds a public health appointment, yet they can hardly earn a decent income, as general practice is so cut up with cheap charges, reduced fees, and quackery, that they wish to curtail the incomes of old men who have done the country a great service besides doing a lot of hard work; those who have some scientific bent delight in the work —I am, etc.,

JOHN SWIFT WALKER, M.D., F.R.C.S.E.,
Late Medical Officer of Health to County Borough of Hanley;
Medical Officer of Health to the Rural District Council of Stoke-on-Trent.

Hanley, Feb. 25th.

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## CONSULTANTS, GENERAL PRACTITIONERS, OR HALF-AND-HALF?

SIR,—I am glad to see the letter of "Enquirer No. 2" in the JOURNAL of February 26th, for undoubtedly there are two sides to the question raised by the original letter under the above title.

It would be well if, as a result of this discussion, a better understanding could be arrived at between general practitioners and consultants. This would be no difficult matter if practitioners had solely at heart the best interests of their patients.

The obvious working plan is that consultants, on the one hand, should never visit patients at their homes, except in consultation with the regular medical attendant; and, on the other hand, it should be understood that any patient is at liberty to "consult" a consultant at his rooms as often as he pleases. Surely the days are passed when a patient is to be considered the absolute property of his family doctor.

When I began consulting practice in London I sought the advice of one of the foremost physicians of the day with regard to the proper procedure. He told me that any patient was at liberty to consult me as often as he wished. If he brought a letter from another medical man, or told me who his doctor was, I should write at once and explain the treatment I had recommended, but that I should avoid asking the name of any doctor who had attended him previously.

My experience after many years of work in London has taught me that, in order to ensure harmonious work between the various branches of the profession, it is necessary that the consultant should limit his work entirely to his consulting room, except when called out in consultation with another practitioner, and that the general practitioner should allow the consultant to carry out such part of the treatment as in the interests of the patient can best be done by him.—I am, etc.,

February 26th. EST MODUS IN REBUS.

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## ENGLISH LITERATURE AND LONDON EXAMINERS.

SIR,—Your violent attack in last week's issue on the London University examiners in English calls for a reply. The questions you select for ridicule appear to me to be admirably adapted to test the knowledge of sound English literature which a youth of ordinary culture should be expected to possess. Any one having a nodding acquaintance with such standard authors as Shakespeare, Goldsmith, Sheridan, Scott, Dickens, Thackeray, Jane Austen, George Eliot, and R. L. Stevenson, and with the better-known poems of such poets as Coleridge, Wordsworth, and Tennyson, could score, without special preparation, 90 per cent. of marks on the questions you have taken as samples of absurdity.

To test the matter I propounded all your questions to my son, a public schoolboy of ordinary intelligence, aged 15 this month. At once he answered offhand quite 90 per cent. of the questions. He has certainly never been "crammed" in literature, but reads English in his holidays, without direction, and for his own amusement.

What "every schoolboy" knows, or ought to know, should be within the compass of candidates for the London "matric."—I am, etc,

March 1st. OXONIAN.

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SIR,—I have been very interested to read the excellent article relating to the English at the London Matriculation, and many of my friends who are engaged in scholastic work are highly pleased to see such useful criticism.

It is most satisfactory to note that you state the lines upon which the examination in English might be wisely remodelled, for you thus relieve the Board of Examiners of a duty which they are obviously incapable of fulfilling. The remedy which you suggest is that which has been adopted in several of the provincial universities—namely, those of Manchester, Liverpool, Leeds, and Sheffield.

Some time ago the University of London resolved to accept the joint matriculation certificate of the above-named universities, and it will be apparent, therefore, that the authorities in London are aware of the thorough utility of the Northern examination in the educational equipment of a student. Whence the question arises, Why is the London Matriculation Syllabus as it is—unconscionable and absurd in respect to its English?

I take it that there is no desire to revise the syllabus in English, because, as it stands, it affords ample scope to the examiners to indulge in their pedantry. From the student's standpoint the question is not considered; and this is quite in harmony with many methods of English education.—I am, etc.,

London, S.W., Feb. 28th. N. S. GOODYER.

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## ADAMS *v.* POMEROY.

SIR,—I beg to acknowledge with sincere thanks the very great kindness of those who so generously contributed to the fund for the reimbursement of my legal expenses in the recent lawsuit, Adams *v.* Pomeroy. The sum has now been handed over to my solicitors by the honorary secretary, Dr. L. Garrett Anderson, in order to defray my bill of costs.—I am, etc.,

Twickenham, March 2nd. MARTHA ADAMS.

## CHILDREN IN POOR LAW SCHOOLS.

SIR,—Will you please allow me to correct a statement made by Dr. McVail in his address on the "Medical Treatment of the Poor" (BRITISH MEDICAL JOURNAL, February 20th). He states that "in none of the large institutions for children was there any periodical medical inspection of all the inmates, independently of existing illness."

He evidently has not visited, or he could not have included, the Central London District School at Hanwell, W., of which school I am resident medical officer. In order to show how completely every child is inspected, I will give a brief summary of the routine which has been carried out here for many years.

(1) Each child on admission is examined thoroughly, boys and infants stripped completely, and girls stripped to the waist; any defect noted is entered in the register of admissions. They are detained for three weeks in the probationary, and are examined daily there, and again examined before being sent into the main school, and any defect which has been noted is ordered to be treated. (2) The medical officer sees every child in the school once a week during the dinner hour, and once a month every boy and infant is seen stripped completely, and every girl with her shoes and stockings removed. (3) During the holidays opportunity is taken to make a more thorough examination. During the Christmas holidays I examined the heart, nose, and throat of every child in the school—namely, 845—and during the next holidays I intend to examine the hearing and vision of every child in the school. (4) Every boy and girl over 13 years of age is again examined as to their fitness for service, for entering the training ships, and the army regimental bands. (5) Every child is also examined on his or her discharge from the school. (6) The attendants, I find, are most careful to bring the slightest ailment to the notice of the medical officer.

I think these various examinations are more thorough than any other class of children get, and are productive of good, as out of 845 children there are only 25 unable to attend school at the present moment, and their physique is far in advance of any elementary school in any part of London. My opinion is that children are better off in a school of this kind than in any system of "boarding-out."—I am, etc.,

C. R. SALISBURY, L.R.C.P., M.R.C.S., D.P.H.

Hanwell, Feb. 27th.

## FOOD AND FEEDING.

SIR,—I was very much interested in your excellent article on Food and Feeding, and especially in your kind reference to myself.

Might I correct one small error? I have not taken plasmon for some years now. I shall be only too glad to send to any of your readers my favourite recipes, and to arrange a free practical demonstration of cookery along non-flesh lines for any members of the medical profession who like to write to me.

I consider your view of the whole subject a model of the judicious caution, together with the sympathy for new points of view, which should characterize the pioneers of public opinion. In fact, I am referring many of my own "health pupils" to your paper.

You are quite right in saying that I only advise people to keep to my sort of diet if it suits them. My idea in preparing quick and easy and economical recipes for substitutes for flesh foods was to make the trial as simple as possible. Most of the recipes take less than five minutes to prepare.

With apologies for taking up your space, and with thanks for the admirable article,—I am, etc.,

London, W.C., Feb. 24th. EUSTACE MILES.

## STERILIZATION OF CERTAIN DEGENERATES.

SIR,—Those interested in my proposal will be glad to hear that a bill for the above is being introduced this week into the Ontario Legislature (Canada). Thus two of the U.S.A. States have legislated, and two have passed bills which await the signatures of their Governors. The Swiss medical press, and also the German journals, are bringing the proposal forward.—I am, etc.,

Liverpool, March 1st. R. R. RENTOUL.

# Medico-Legal.

## IRVING *v.* BODIE: RESULT OF APPEAL.

LAST week an application for judgement or a new trial was made to the Court of Appeal in the case of Irving *v.* Bodie. The action, which was heard last November by Mr. Justice Darling in the King's Bench Division, was brought for damages for fraudulent misrepresentation, whereby the defendent, "Dr." Bodie, was alleged to have induced the plaintiff to enter into an agreement to pay £1,000 to the defendant. The plaintiff's case was that the defendant, who was described as a hypnotist, bloodless surgeon, and medical electrical specialist, suggested to him when he was a minor that he should become his pupil at a fee of £500. Subsequently, in July, 1906, an agreement was entered into whereby, in consideration of £1,000, the defendant agreed to engage him as principal assistant in his work for three years at £2 a week. The plaintiff alleged and gave evidence at the trial to prove that he was induced to enter into the agreement by false representations that the defendant was a duly qualified doctor, and could instruct him to become one; that he was carrying on an honest business, was skilled in hypnotism, bloodless surgery, and medical electrical work, and had discovered the cure for paralysis by passing through the body electrical currents of 2,000 volts. The jury found for the plaintiff. The defendant appealed on the ground of misdirection. It was contended that the alleged misstatements were contained in a pamphlet which the plaintiff did not read until after he had entered into the contract with Bodie. As for his calling himself "doctor," that was a showman's licence.

In delivering judgement, the Master of the Rolls said the appeal was hopeless. There was no misdirection, and the jury had found against the defendant. Certain diplomas had been produced. One of these described the defendant as a doctor of medicine of North Carolina, another purported to confer on him some title in surgery. The defendant had no qualification here, and he had not even a qualification in America, and to say that he was fully qualified was a gross lie. The jury had heard the evidence and had come to the only conclusion that twelve reasonable men could have come to—that the defendant was a swindler, and that this young man had been swindled.

The Lords Justices concurred.

## CONVICTION FOR ASSUMPTION OF MEDICAL TITLES.

IN July last we reported that Adam Melrose Porteous had been charged at Stockton with obtaining sums of money amounting to £81 9s. 11d. and board estimated at £36 by continuous false pretences from the visiting committee of the Durham County Asylum. It was alleged that the accused had personated a registered medical practitioner named William James Porteous, now in New Zealand, had been engaged through a firm of medical agents in London as a locumtenent at the Durham County Asylum, and had attempted to have his name placed on the *Medical Directory*. The accused, who reserved his defence and was liberated on bail, was committed to take his trial at the Durham Assizes.

The case came before Mr. Justice Ridley on February 22nd, when the judge was informed that the accused had in the interval since July gone as a ship's doctor to South Africa and had been wrecked; he now surrendered to his bail, and the counsel who appeared on his behalf stated that he had felt bound to advise the prisoner that there was no defence in law to the charge made against him of obtaining money by false pretences. He submitted, however, that the asylum authorities had full value for the money they had paid the accused, as he was capable of doing the work that came to him. The real essence of the case was that the prisoner had been guilty of acting as a medical man when in fact he was not qualified. Judgement was deferred until the following day, when Mr. Justice Ridley said that the fact that incompetence had not been proved told in the prisoner's favour, but the other part of the case remained unanswered—that he had pretended to be a doctor when he was not, that he pretended to have qualifications which he actually did not have, and obtained money by false pretences. Had the prisoner been ignorant in the duties he had performed a more severe sentence would have been passed. The judge then sentenced the accused to six months' imprisonment in the second division; he refused an order as to costs.

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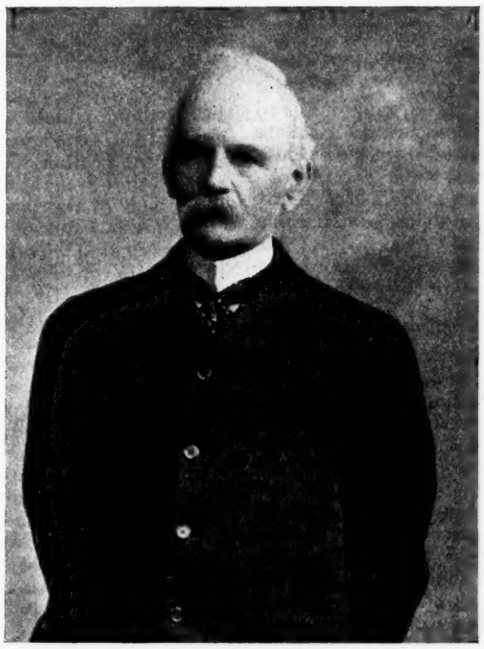
THE usual monthly meeting of the Executive Committee of the Medical Sickness, Annuity, and Life Assurance Society was held at 429, Strand, London, W.C., on February 18th, Dr. de Havilland Hall in the chair. The business during January had been satisfactory. As is usual at this season of the year, a large number of the members had suffered from the various ailments brought on by exposure; but as the month had been fairly mild, the claims, though numerous, had been for the most part of short duration, but a moderate proportion of the sickness claims incurred this year has been attributed to influenza. Prospectuses and all particulars on application to Mr. F. Addiscott, Secretary, Medical Sickness and Accident Society, 33, Chancery Lane, London, W.C.

# Obituary.

## HENRY JOHN MANNING, B.A.LOND., M.R.C.S.ENG.,

HONORARY SECRETARY AND TREASURER OF THE SOUTHERN BRANCH, BRITISH MEDICAL ASSOCIATION.

IT is with deep regret that we record the death of Henry John Manning, Medical Superintendent and Licensee of Laverstock House Asylum, Salisbury, which took place there on February 20th, after a long and painful illness, necessitating a serious operation. He was born in 1835, and received his early education at University College School, Gower Street, graduating in arts at the London University in 1856. He studied medicine at University College, and became a member of the Royal College of Surgeons in 1860. He then made several voyages to Australia as ship's surgeon, and ultimately went to Laverstock House Asylum in 1862 as the coadjutor of Dr. Bushnan, and later of Dr. Stanley Haynes. In 1870 he succeeded Dr. Haynes as Medical Superintendent, a position which he occupied until his death. He rapidly acquired a strong professional and social position, and as a consultant his opinion was highly esteemed by his professional brethren in all cases belonging to his particular department of practice. He possessed in a rare degree the power of making friendships, and had a remarkable gift of bringing men together. He held that much of the jealousy and many of the misunderstandings which occur too commonly among medical men were the results of their not knowing each other sufficiently well. For this reason he was a strong believer in the value of social functions, and he always endeavoured to arrange that medical meetings should be preceded by a simple lunch or dinner. Nor was he slow to offer hospitality himself. At the annual meeting of the Southern Branch at Salisbury in 1905 he and Mrs. Manning magnificently entertained about a hundred members and their wives in the charming grounds of his private residence.



HENRY JOHN MANNING.
*Photograph by the Royal Central Photo Co., Salisbury.*

He was an excellent classical scholar, had a good knowledge of French literature, and to the last was an earnest student of metaphysical science. He was a member of the Medico-Psychological Association and a contributor to the *Journal of Psychological Medicine* and other scientific periodicals.

It was, however, to the work of the British Medical Association that he was most deeply devoted. He was one of the first to join the Southern Branch when it was formed, but he had been an active member of the old Salisbury Medical Society, and had held the office of President before that society was merged into the Salisbury Division of the Association. On the death of Dr. Trend of Southampton, Mr. Manning was unanimously chosen as Secretary and Treasurer of the Branch. To him this office was the greatest pleasure of his life, and only a few days before his death he dictated a memorandum of what had to be done at a meeting of the Branch Council, which took place after he had passed away. His accurate and methodical habits were invaluable to the Association. He never failed to reply to correspondents promptly, courteously, and legibly, and he kept excellent minutes and records of the affairs of the Branch. In many ways he was an ideal secretary; he took care to arrive in sufficient time to have the room properly arranged and his own papers laid out in order, so that the meeting was able to start with perfect punctuality. He had a thorough knowledge of all the developments of the Association and of the steadily expanding work of its various committees. At each meeting he had a perfectly clear conception of the business to be considered, and had in a high degree the power of explaining it tersely and lucidly. If the question happened to be a contentious one, on which, perhaps, opposite opinions were strongly expressed, he was careful to elicit and record impartially the views of each without forcing his own view on others. In ethical inquiries his quick perception of the points involved, and his scrupulous adherence to the rules of procedure governing such matters, were of the greatest assistance in safeguarding the committee and the Association. The delightful summer excursions that followed the annual meetings of the Branch went off invariably without the slightest hitch; but few knew how carefully the Branch Secretary had gone over the ground beforehand and provided for every detail and possible emergency.

He was a governor of the Salisbury Infirmary, and for twenty years an active member of the Committee of Management and of the House Committee, where his great practical knowledge was of inestimable service to the institution. He took a lively interest in parochial affairs, was chairman of the parish council, and a churchwarden. He was a good all-round sportsman, and in his early days a great athlete. At University College he was a well known boxer, having studied the art of self-defence under the famous Tom Sayers. His lightness of foot, quickness of eye, and excellent bodily formation above the belt, made him a great favourite with his master. Sayers was greatly disappointed when Manning told him he had decided to be a doctor; "Give it up man, stick to the ring, and you will make a fortune," was the ex-champion's advice. The Mannings were a cricketing family, and the five brothers were all in the school eleven. Among their school contemporaries were Sir George Lewis, Sir Edward Lawson, and Sir Ralph Littler, but Henry John Manning usually carried off more than his share of prizes. He was an expert croquet player, and could hold his own at billiards and chess. The solution of chess problems formed a great resource in the last few months of his life. He was an excellent listener; his calm and earnest manner inspired patients with great confidence, and they constantly sought his advice and assistance long after they had passed from his care. Too often a convalescent finds it impossible to regain the confidence of a former employer, or to succeed in getting a fresh start in life after a mental breakdown. To such Mr. Manning was invariably a tower of strength by his encouragement, help, and generosity. He rarely failed to discover some way of lifting them out of their difficulty, and finding them a new foothold in society.

He married Ellen Francis Haynes, elder daughter of the late Mr. Joseph Haynes, J.P., D.L., the proprietor of Laverstock House, and she with two daughters survives him.

On February 22nd a memorial service was held in the beautiful private chapel of Laverstock House. The funeral took place at Laverstock Church on the afternoon of February 22nd, amidst every sign of sympathy and regret. Among the numerous floral tributes that covered the coffin, many were from medical men; but four beautiful wreaths bore the following inscriptions: "A token of deep affection and respect from the Southern Branch of the British Medical Association"; "With deep regret and much sympathy from the Portsmouth Division"; "In affectionate remembrance, from the members of the Winchester Division"; "With sincere sympathy, from the

members of the Isle of Wight Division." Every Division of the Branch was largely represented in the funeral procession, as were also the Cathedral Chapter, the Town Council, the Salisbury Infirmary, the County Magistrates, the Board of Guardians, the Parish Council, and many other public bodies.

Among the appreciations received, the following is from Dr. STANLEY HAYNES: Throughout the village in which he lived so long and continuously he was beloved for his excellencies and kindnesses, while his staff in the institution he managed so well was devoted to him. He was highly respected by all, earned the affection of a large circle of friends and the gratitude of the patients and their relatives. He was a singularly calm, quiet, able, and conscientious practitioner, most industrious and successful in his works, inspiring his *clientèle* with thorough confidence; to sum up, he was a model medical superintendent. A good classic, and knowing French well and English completely, his letter writing, vigorous and terse, was a pleasure to his correspondents; he was affable, most courteous and considerate, and had a keen, pleasant sense of humour, and was a good comrade and friend, without a known enemy. Now the labourer has gone to his well-earned rest, respected and deeply regretted throughout the district.

Dr. JOHN F. BRISCOE (Alton, Hants) writes: As a senior member and a past vice-president of the Branch, it is sad to write these few lines of condolence and affectionate remembrance. But my friend is removed from his worldly cares, and his memory only remains, as a calm, level-headed, resourceful, and genial companion. For many years Dr. Manning devoted his spare time time to advancing the welfare of the British Medical Association. He was faithful, honest, straightforward, and reliable. He gave advice and counsel to every one in the Branch who sought his aid; he organized our meetings; he was never in a hurry to push forward a new idea; he delicately weighed all the details of ethical procedure; he loosened many knotty points; he was versed in the dry and official problems that beset the general practitioner; he carefully arranged social, clinical, and professional gatherings; and step by step, for a long period, he watched the fulfilment of his ambition—the success of the Southern Branch of the British Medical Association; but he knew his time was short, and bravely bore the physical affections which, for so long, pressed him to the shadow of the grave; the courteousness and the graciousness, so characteristic of the man, remained to the last. His was another instance of the power of mind over body which the columns of the JOURNAL frequently chronicle. It will be difficult to find another wholly to fill his office, unless he possesses the same attributes; keeps in touch with the profession and members of the Branch; maintains the dignity of the Association; and, above all, realizes the importance of the great imperial possibilities of the British Medical Association. If such monumental work can be done by one man, how short-sighted and deplorable must he feel who never does his duty by fulfilling the requirements of his membership—at least, by attending the meetings of his Division or Branch, half-yearly or at most yearly I emphasize this inasmuch as there are members so self-centred that they fail to grasp the fact that an army of men, to be successful, must be self educated and move together.

Dr. J. WARD COUSINS writes: Kindly allow me to express in a few words my regard and admiration for our old friend Henry John Manning. He was one of the original members of the Southern Branch, and by his able efforts as Local Secretary he greatly promoted the interests of the Association in Wiltshire. At the first annual meeting of the Branch at Portsmouth in 1873, after its recognition by the Council, he was present, and from that time until his lamented death was a constant attendant at all the meetings. On the retirement of the late Dr. Trend of Southampton from the post of Branch Secretary, he was unanimously selected to succeed him, and shortly afterwards was appointed one of the representatives on the Central Council, a position which he occupied for several years. During the long period of thirty-seven years he diligently laboured to help the progress of our Association in the South, and by his generous efforts he gained the esteem and confidence of all the members. The success and pleasure of our meetings were always enhanced by his genial and kindly presence; and now his absence will be deeply regretted, and must make a gap in our midst which will not be easily filled. From long and personal experience of Mr. Manning's high and estimable character I feel sure that he will ever be remembered as a wise and judicious man. In the special department of medicine to which he devoted all his energies his opinion was eagerly sought and greatly valued in the southern counties, and through his personal qualities and wide attainments he enjoyed the confidence of all his professional friends.

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## ROBERT SPENCE, M.B., C.M.EDIN,

M.O.H., BURNTISLAND.

DR. ROBERT SPENCE died somewhat suddenly at his residence, St. Ninians, Burntisland, Fifeshire, on February 24th, in his 63rd year. He was one of the best known and best liked medical practitioners in the county of Fife. While visiting his patients on February 22nd he had a fainting attack, but rallied, and was feeling much better when the end came.

Dr. Spence was a member of one of the oldest families in Shetland, which dates its connexion with the islands from 1450, the present representative being his only remaining brother, Mr. T. W. L. Spence, of Urgea, Secretary to the General Board of Lunacy for Scotland. The third son of the late Dr. Basil Spence, of Reafirth, Dr. Spence was a dux of the Royal High School of Edinburgh, and graduated with honours in medicine at the University of Edinburgh in 1870. After acting for a time as Assistant to Dr. Logie of Kirkwall, and later at Lochmaben, Dumfriesshire, he began practice, in 1873, in Burntisland, in succession to Dr. James Carmichael, now in Edinburgh. Dr. Spence was very popular, and was respected and beloved by his patients in the Burntisland and Aberdour districts, while as an excellent surgeon and sound physician he had the confidence and friendship of the leading consultants in Edinburgh. He was a Justice of the Peace for the County of Fife, and Medical Officer for the burgh of Burntisland. He took an active interest in all local affairs, and was Senior Elder of the Parish Church. His wife, an Orkney lady, died some years ago, and he recently lost by death his two elder sons, Dr. Basil Spence and Dr. Alexander Spence. His unexpected and comparatively early death has caused sadness and sorrow in Fife, Orkney, and Shetland, and among a wide circle of the medical profession in Edinburgh, where everybody had a kindly word to say of him.

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DR. D. D. ACHSCHARUMOFF, who recently died at Baku, had an unusually variegated career. Born in 1823, he first gave himself to the study of Oriental languages at the University of St. Petersburg, where he took his degree in that subject in 1846. Later he took part in a political conspiracy and was condemned to death. This penalty was, however, commuted to one of hard labour. After working in the mines for four years he entered the Army of the Caucasus as a private. Repeated acts of valour in the field won for him promotion first to the rank of a non-commissioned officer, then to that of ensign, and afterwards to that of a commissioned officer. His civil rights were restored to him, and a year later he left the service and studied medicine at Dorpat, St. Petersburg, Berlin, and Paris. In 1862 he took his doctor's degree in the Medical Academy of St. Petersburg. He settled in the town of Poltawa, where he was Medical Inspector, and remained on duty till his 80th year, taking an active part in the organization of the district, and especially in the development of a local medical service. He wrote on epidemiological subjects (plague, cholera, anthrax, small-pox, diphtheria), and on the repression of syphilis and prostitution. In 1881 he founded the Medical Society of Poltawa.

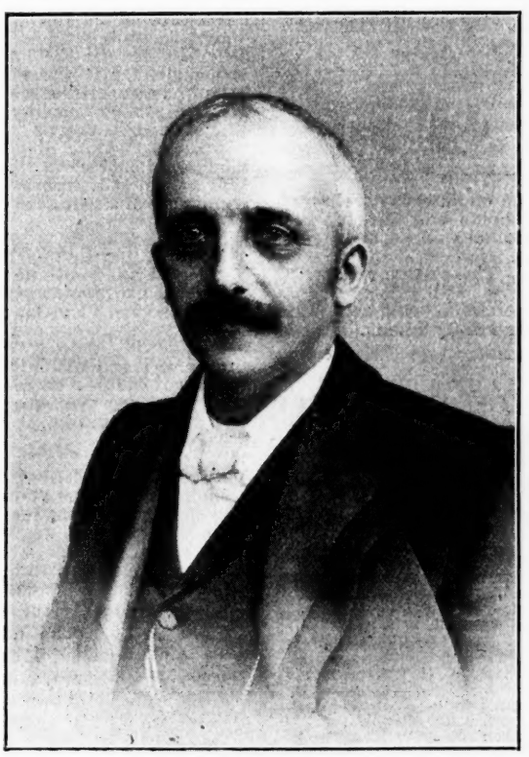
## JOHN WILLIAM TAYLOR, F.R.C.S.ENG., M.D.BRUX., M.SC.BIRM.,

PROFESSOR OF GYNAECOLOGY, UNIVERSITY OF BIRMINGHAM.

VERY great and general regret will be felt at the announcement of the death of Mr. J. W. Taylor, of Birmingham. His health began to fail about two years ago; he died on February 26th as a result of chronic heart disease, and was buried at Northfield, Worcestershire, on March 2nd.

He had long been regarded as one of the foremost gynaecologists in this country, for he was a keen and accurate observer, a bold and skilful operator, and an original thinker, who promoted the advance of surgical knowledge by contributions of the highest value.

John William Taylor, who was the third son of the late Rev. Mr. Taylor, of Lewes, Sussex, was born at Melksham, Wiltshire, in 1851. He received his medical training at Charing Cross Hospital, and took the diploma of F.R.C.S.Eng. and the degree of M.D.Brux. in 1877. He settled in Birmingham in the following year. In May, 1884, he was appointed Honorary Surgeon to the Birmingham and Midland Hospital for Women, and a month afterwards became Mr. Lawson's Tait's chief assistant. Thenceforth he devoted himself to the practice of gynaecology and abdominal surgery, labouring with untiring zeal to make gynaecology more scientific and accurate, and introducing many valuable improvements in technique and methods of treatment. As an example may be instanced his investigations into the effect of the prolonged use of small doses of mercuric iodide in the treatment of gonorrhoeal salpingitis.[1]



JOHN WILLIAM TAYLOR.
*Photograph by H. J. Whitlock and Sons, Ltd., Birmingham and Wolverhampton.*

For a quarter of a century he toiled ceaselessly at the hospital, his work adding greatly to its already high reputation. As a matter of principle he aimed at giving as much care and thought to his poor patients as he did to the rich. It was no uncommon thing for him to spend four hours of the forenoon over a series of abdominal sections, and then devote five or six hours of the afternoon to the drudgery of the out-patient department; there is little doubt that this arduous work shortened his life.

In 1898 he delivered the Ingleby Lectures on extra-uterine gestation, and his monograph on this subject is a most complete and lucid exposition. In the same year he became President of the Midland Medical Society, and in 1899 he was appointed Professor of Gynaecology, a post which he held for ten years and resigned only a few months ago.

He delivered the Introductory Address at the opening of the Medical Session at Charing Cross Hospital—his old medical school—in 1901, and was shortly afterwards appointed governor of that hospital. He was one of the founders of the British Gynaecological Society in 1883, and when President in 1904 delivered a memorable and courageous address on "The Diminishing Birth-Rate," which he regarded as a grave national danger.[2] His outspoken denunciation of the moral evils which underlie this great social fact, made a remarkable impression amongst the thoughtful laity. In 1895 he translated into English, in conjunction with Dr. Frederick Edge, Dührssen's *Manuals of Gynaecology and Obstetrics*. A mere perusal of the long list of his contributions to the medical press shows how extensive was the range of his labours. We may instance the following:

Acute Hydronephrosis (*Lancet*, 1884); Cholecystotomy (BRITISH MEDICAL JOURNAL, 1885); Electricity in the Diseases of Women (*Birmingham Medical Review*, 1887); on a Method of Dilatation of the Neck of the Womb (BRITISH MEDICAL JOURNAL, 1888); on the Treatment of Perforation due to Gastric Ulcer (*Birmingham Medical Review*, 1888); on Pyosalpinx (*Lancet*, 1889); on Dress in Relation to certain Diseases of Women (*Medical Annual*, 1889); on Typhoid Fever—Perforation, Operation, Recovery (*Lancet*, 1890); on Uterine Displacement (Midland Medical Society, 1891); A Case of Extrauterine Pregnancy—Operation, Recovery (*Obstetrical Transactions*, 1891); on Digital Exploration of the Pylorus (*Lancet*, 1891); on Intestinal Obstruction following Abdominal Section (*American Journal of Obstetrics*, 1892); on Concealed Pyosalpinx (*Lancet*, 1894); on Intraperitoneal Haematocele in its Relation to Tubal Abortion (*British Journal of Gynaecology*, 1894); on Some of the Less Common Diseases of the Vulva (*Birmingham Medical Review*, 1894-5); on Vaginal Fixation of the Uterus (BRITISH MEDICAL JOURNAL, 1895); on Vaginal Hysterectomy for Cancer (Midland Medical Society, 1896); on Excision of the Caecum (*Birmingham Medical Review*, 1897); on Loreta's Operation and Posterior Gastro-enterostomy (*Lancet*, 1897); on Panhysterectomy (*British Gynaecological Journal*, 1897); on the Treatment of Gonorrhoeal Salpingitis (ibid., 1899); on Inversion of the Uterus (*Birmingham Medical Review*, 1899); on Disorders and Diseases of Pregnancy (*Quain's Dictionary of Medicine*, 1902); on Ovariotomy (*Playfair's System of Gynaecology*, 1906); on Recurrent Abortion (BRITISH MEDICAL JOURNAL, 1903).

Apart from his eminence as a surgeon, Mr. Taylor was possessed of definite literary, artistic, and musical ability. He was passionately fond of music, and one of the features of his private hospital was an organ in the hall on which he frequently played. Amongst his musical compositions is the well-known "Gaudeamus," sung annually by the Birmingham University students, who little dream that he also wrote the humorous verse. As a result of various holidays spent in the South of France and Western England, he published in 1906 a volume entitled *The Coming of the Saints*, wherein he discussed with great acumen the legends concerning the travels of Mary, Martha, Lazarus, and Joseph of Arimathea, in France and England. He also wrote poems and hymns of charm and beauty, revealing the depth of his religious belief, which was that of the devout and humble Anglo-Catholic. Throughout his career Mr. Taylor was constantly striving to attain to the highest and best both in work and in character. His colleagues and those who worked under him were inspired by his own high standard. They will never forget his example, nor his teaching that, "so long as we are willing to recognize and learn from our mistakes there is hope for the future."

He married in 1889 Florence M. Buxton (daughter of Mr. J. Holmes Buxton, M.R.C.S., of London), who survives him. He leaves two sons and three daughters.

C. M., M. D. S.

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DR. ANDREW KEY, who died on February 18th, was long resident in Montrose, and was one of the oldest practitioners in Scotland. He graduated M.D. at Edinburgh University in 1856, and also took the L.R.C.S. in the same year. He carried on a large practice for many years, retiring some months ago, being succeeded by his son-in-law. He was held in much esteem by his professional brethren. He was Consulting Surgeon to the Montrose Infirmary, and also Surgeon to one or two institutions. Mrs. Key only predeceased her husband by a fortnight.

[1] *British Gynaecological Journal*, 1899.
[2] BRITISH MEDICAL JOURNAL, 1904, vol. i, p. 427.

THE death of Dr. CONSTABLE, of Leuchars, was not unexpected, as he had been in feeble health for some months. He long practised in Leuchars, and on his retirement some years ago was presented with a purse of sovereigns by his patients and friends. Dr. Constable graduated M.D. at Glasgow University in 1862, and was parochial medical officer for several parishes in Fife. He was a past-president of the Fifeshire Medical Association.

ANOTHER Crimean veteran has passed away in the person of Surgeon-Major-General GEORGE LANGFORD HINDE, C.B., who died recently at Reading, aged 77 years. He entered the Army Medical Department as an Assistant Surgeon, May 11th, 1855; was made Surgeon, September 19th, 1868; Surgeon-Major, March 1st, 1873; Brigade-Surgeon, April 15th, 1881; Surgeon-Colonel, April 10th, 1883; and Surgeon-Major-General, January 13th, 1892, in October of which year he retired from the service. He served in the Crimea in 1855, being present at the siege and fall of Sebastopol, for which he received a medal with clasp and the Turkish medal. He was also in the Boer war in 1881, and with the Soudan expedition in 1884–5, for which latter campaign he was mentioned in dispatches, received a medal with clasp and the Khedive's bronze star, and appointed a C.B.

# Universities and Colleges.

## UNIVERSITY OF OXFORD.

*M.B., B.Ch.*—In congregation holden on Saturday, February 15th' the degree of Bachelor of Medicine and Surgery was conferred on George Harold Cross, Balliol College, and Henry Pratt Newsholme, Balliol College.

*Examination in Preventive Medicine.*—The statute relating to the examination in preventive medicine has been amended by Convocation so as to allow of the examination being held twice a year, in Michaelmas and in Easter or Trinity Terms.

## SOCIETY OF APOTHECARIES OF LONDON.

AT the examination held in February the following candidates passed in the subjects named:

*Surgery.*—*†N. L. Clarke, Cambridge and London Hospital; *A. Cordon, Birmingham; *†A. H. C. Dawes, Westminster Hospital; H. P. Jelley, Edinburgh; *†O. R. Kelly, Westminster Hospital; *†J. G. Morgan, London Hospital; *R. Rowlands, Glasgow and Westminster Hospital; *H. S. Tumber, Sheffield; †A. Whitby, Dublin; *G. F. Wilson, London Hospital.

*Medicine.*—*†N. L. Clarke, Cambridge and London Hospital; H. P. Jelley, Edinburgh; †J. G. Morgan, London Hospital; *J. K. Nariman, Bombay and St. Mary's Hospital; *†E. Newhouse, Leeds; *L. M. Potter, Geneva and Royal Free Hospital; *A. H. Rich, University College Hospital; *H. T. Roberts, St. Mary's Hospital; *†H. S. Tumber, Sheffield.

*Forensic Medicine.*—N. L. Clarke, Cambridge and London Hospital; R. Eyton-Jones, Liverpool; H. P. Jelley, Edinburgh; L. M. Potter, Geneva and Royal Free Hospital; W. H. Watson, Guy's Hospital.

*Midwifery.*—N. L. Clarke, Cambridge and London Hospital; J. B. Holmes, Manchester; O. R. Kelly, Westminster Hospital.

* Section I. † Section II.

The diploma of the Society was granted to the following candidates, entitling them to practise medicine, surgery, and midwifery: N. L. Clarke, A. H. C. Dawes, O. R. Kelly, J. G. Morgan, and A. Whitby.

THE first meeting held out of London by the Royal Meteorological Society took place in the Physical Laboratory of the Manchester University on February 23rd, the President, Mr. H. Mellish, in the chair. Dr. Hopkinson, the Vice-Chancellor, who welcomed the society, said that the history of the university showed that it was not merely in expression, but in act, interested in this branch of scientific work, as much had been accomplished in meteorology by the work that had been initiated and so liberally supported by Dr. Schuster. Dr. A. Schuster, who also welcomed the society, said that although meteorology might be regarded by some as a small part of physical science, yet it was intimately connected with a number of other subjects, especially with one large subject which he thought had received far too little attention in the universities—namely, the whole physics of the globe. Dr. W. Makower related the results of the investigation of the electrical state of the upper atmosphere made at the Howard Estate Observatory, Glossop, by himself, Mr. A. J. Makower, and Miss Margaret White. Mr. A. W. Harwood read a paper on twenty-five registering balloon ascents made from Manchester on June 2nd to 3rd, 1909. The balloons were sent up at intervals of one hour, and interesting and valuable results were obtained.

# The Services.

## ROYAL ARMY MEDICAL CORPS (TERRITORIAL).

### THE FIRST SOUTH MIDLAND FIELD AMBULANCE.

AT the annual supper of the First South Midland Field Ambulance, held in Birmingham, the commanding officer, Major C. H. Howkins presiding, the officers of the Field Ambulance present were Captains Craig and Barling and Lieutenants McCall, Sturrock. Lunn, Boedicker, and Kimpton. A large number of non-commissioned officers and men attended, and the guests included Colonel Whitcombe, Lieutenant-Colonel Lister, Majors Robertson, Thompson, Rooker, and Newton, Captains Farrant, Kirkby, Orton, and Goode, Lieutenants Nuthall, Hobling, Webb, Spring, Forrest, and Kingston, and Chief Superintendent Gilbert (St. John Ambulance Brigade). The First Field Ambulance is now at full strength, and the ranks of the special reserve are beginning to be filled in.

### THE FIRST SOUTH MIDLAND MOUNTED BRIGADE FIELD AMBULANCE.

The annual dinner and smoking concert of the First South Midland Mounted Brigade Field Ambulance were held at Birmingham on February 26th. The chair was taken by Major W. H. Stephen, the officer commanding, and there were present Colonel W. P. Whitcombe, Majors J. E. H. Sawyer and C. Howkins, Captains Stephens and Craig, Lieutenants Forrest, Hobling, Buchanan, and Spring, and a large number of non-commissioned officers and men. Colonel Whitcombe congratulated the Field Ambulance on the excellent progress it had made, for it was now at full strength, and contained a keen and a superior class of men in its ranks. He complicated Major Stephen on having brought the ambulance to such great efficiency in so short a time, and paid tribute to the splendid services of Captain Stephens, the Adjutant of the South Midland Division of the R.A.M.C.(T.). He also announced that the War Office had made a grant towards the construction and equipment of a new head quarters at Witton.

### CHURCH PARADE AT ASTON.

A church parade was held at the Aston Parish Church on February 20th, and there attended the 8th Battalion the Royal Warwickshire Regiment, the 1st Mounted Field Ambulance, the 1st and 2nd Field Ambulances, South Midland Division, and the 1st Southern General Hospital. The R.A.M.C. units were commanded by Colonel Whitcombe, the Administrative Medical Officer of the South Midland Division. Considering the very inclement weather there was a good attendance of officers and men. The sermon was preached by the Right Rev. Bishop Taylor Smith, C.V.O., D.D., Chaplain-General to His Majesty's Forces.

### CONDITIONS OF PROMOTION.

WE are asked the following question: A medical officer, whose commission in the Volunteers is dated 1899, was civil surgeon in charge of troops for three years before, and has been in medical charge of recruiting in the town in which he resides for about thirteen years. He is the oldest officer in his regiment, and desires to know whether he is entitled to apply for promotion to the rank of surgeon-major.

*** Presumably this officer has been transferred to the Territorial Force either as Surgeon-Captain in his regiment or as Captain R.A.M.C.(T.) attached to the regiment. When he has served eight years and a half as Surgeon-Captain or Captain (Volunteer service will count) he will probably be promoted if he makes application through the proper channel.

# Public Health AND POOR LAW MEDICAL SERVICES.

## THE APPOINTMENT OF MEDICAL OFFICERS OF HEALTH.

W.—The appointment of a medical officer of health, one-half of whose salary will be paid out of the Exchequer grants of a county council, must be made in accordance with the terms of the Order of the Local Government Board dated March 23rd, 1891. This Order requires the appointment to be advertised. A town of over 50,000 inhabitants which is a county borough receives the Exchequer grants. The payment of one-half of the salary of the medical officer of health out of the grants would therefore be a mere question of accounts, and if it were not so paid the funds of the town would suffer no loss. It would appear from this that the medical officer of health of a county borough may be appointed in disregard of the Order of March 23rd, 1891. The medical officer of health of a district or a combination of districts with a population of 50,000 or more persons is required by Section 18 (2) of the Local Government Act, 1888, to possess a qualification in public health, or have been for three years prior to 1888 a medical officer or medical inspector of the Local Government Board, or for three consecutive years prior to 1892 the medical officer of health of a district with a population of at least 20,000 persons.

# Medical News.

THE Naval Medical Dinner will take place in June, and a notice giving details will be issued later on.

THE annual general meeting of the Medical Graduates' College and Polyclinic will be held at 22, Chenies Street, W.C., on Friday next, at 5.15 p.m.

AT a meeting of the Pharmaceutical Society on Tuesday next, at 8 p.m., Professor Arthur W. Crossley, F.R.S., will read a paper, illustrated by lantern slides, on the utilization of atmospheric nitrogen.

THE Secretary of State for the Colonies has appointed Mr. W. D. Ellis, of the Colonial Office, to be a member of the Advisory Committee on medical and sanitary questions connected with the British Colonies and Protectorates in Tropical Africa.

AT a provincial meeting of the Royal Sanitary Institute at Newcastle-upon-Tyne on March 11th, at 7.30 p.m., a a discussion on sanitary administration, with reference to legislation, past and recent, will be opened by Dr. H. Kerr, Assistant M.O.H. On the afternoon of the same day a visit will be paid to the new hydrolyzing works at Durham.

AT a meeting to be held shortly at Hounslow, Sir R. Douglas Powell, President of the Royal College of Physicians, will deliver an address in connexion with the proposal to establish a consumption sanatorium for Middlesex by private enterprise; the attempt to establish such a sanatorium under the county authority has failed.

AN association for the repression of quackery has lately been founded at Dresden. At the inaugural meeting an address was delivered by Dr. Neustätter, joint editor of the *Gesundheitslehrer*. Dr. Beythien, head of the Chemical Analysis Office of the City of Dresden, was elected the first president of the new society.

OWING to the lamented death of Dr. W. B. Ransom, there is a vacancy for an honorary physician on the staff of the General Hospital, Nottingham. The hospital has within the last few years suffered many losses through the death of Dr. Ransom, senior and junior, and of Dr. Brookhouse, and the appointment of Dr. Handford to be Medical Officer to the Notts County Council.

DR. F. W. ANDREW, medical officer of health, has recently made a report upon the vital statistics of the Hampstead Garden Suburb. The number of births registered was 33, being at the rate of 13.5 per 1,000. No death of an infant occurred during the year, and 3 of the 4 deaths were of persons over 65 years of age. The only cases of infectious disease were 7 cases of scarlet fever, a disease which had been prevalent throughout the district; the cases in the Garden Suburb were traceable to outside cases in school life. The medical officer of health considers that these returns speak well for the health of the community.

THE President of the Board of Education has appointed a Departmental Committee to inquire whether the cost of building public elementary schools can properly be reduced, and whether any alteration in the law is required to authorize the adoption of materials or methods of construction different from those ordinarily employed at present. The chairman of the committee is Mr. L. A. Selby-Bigge, C.B., Principal Assistant Secretary of the Elementary Education Branch of the Board of Education, and the other members are Mr. N. T. Kershaw, C.B., Assistant Secretary of the Local Government Board, and Mr. F. Clay, Architect of the Board of Education. Mr. J. G. Milne, Senior Examiner of the Board of Education, will act as secretary.

SIR GEORGE COUZENS presided on February 25th over the annual meeting of the subscribers to the Royal Portsmouth Hospital, held in the Town Hall. The report stated that there had been an increase in all departments of the institution's work, the number of patients treated being the largest recorded in any single year. Two fresh instalments of the new hospital—namely, the children's wards and an out-patient department—had been completed. The latter, which with the equipment cost £4,583, was the munificent gift of Mr. Woolmer White. It had been found necessary to provide additional accommodation for the nursing staff, and a new nursing home was being built, towards the cost of which an anonymous donor had promised to give £2,000 on condition that £5,500 was raised by the subscribers during three years. Arrangements are being made for a systematic canvass of the town and district, by which it is hoped to raise this sum and also to increase the annual income. The excess of expenditure over the ordinary income for the year 1909 was £2,094 17s. 3d.

# Letters, Notes, and Answers.

## BRITISH MEDICAL ASSOCIATION AND BRITISH MEDICAL JOURNAL.

**THE offices of the British Medical Association and of the BRITISH MEDICAL JOURNAL are at 429, Strand, London.**

COMMUNICATIONS respecting Editorial matters should be addressed to the Editor, 429, Strand, London, W.C.; those concerning business matters, advertisements, non-delivery of the JOURNAL, etc., should be addressed to the Office, 429, Strand, London, W.C.

TELEGRAPHIC ADDRESS.—The telegraphic address of the EDITOR of the BRITISH MEDICAL JOURNAL is *Aitiology, London.* The telegraphic address of the BRITISH MEDICAL JOURNAL is *Articulate, London.*

TELEPHONE (National):—
2631, Gerrard, EDITOR, BRITISH MEDICAL JOURNAL.
2630, Gerrard, BRITISH MEDICAL ASSOCIATION.
2634, Gerrard, MEDICAL SECRETARY.

ORIGINAL ARTICLES and LETTERS *forwarded for publication are understood to be offered to the* BRITISH MEDICAL JOURNAL *alone unless the contrary be stated.*

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Office 429, Strand, W.C., on receipt of proof.

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication.

CORRESPONDENTS not answered are requested to look at the Notices to Correspondents of the following week.

MANUSCRIPTS FORWARDED TO THE OFFICE OF THIS JOURNAL CANNOT UNDER ANY CIRCUMSTANCES BE RETURNED.

☞ *Queries, answers, and communications relating to subjects to which special departments of the* BRITISH MEDICAL JOURNAL *are devoted will be found under their respective headings.*

## QUERIES.

F. H. desires to know whether injections of fibrolysin are likely to benefit a case of fibrous ankylosis of joints (metacarpal) following gonorrhoeal rheumatism of some four months' duration.

J. P. desires to hear of any institution for a lady aged 65, very deaf, and unprovided for, unable to earn her own living, but who could do a little light household duty; a few shillings a week payment might possibly be arranged.

### EPIDEMIC JAUNDICE IN CHILDREN.

DR. J. H. POWER asks for information as to the cause of simple jaundice in children living in the same house. He has lately met with four cases in the same family, and has come across several others.

*** Although the occurrence of "infectious" jaundice is fairly generally recognized, little is said regarding it in most of the ordinary textbooks on children's diseases. Emmett Holt merely states that an epidemic had been noted by Rehn (of Frankfort). In the textbook of children's diseases by Williams is a concise account of most that was known of the disorder at that time. Professor Stoos, of Berne, in Pfaundler and Schlossmann's treatise on diseases of children (vol. iii), says that widespread epidemics have been repeatedly noticed in early life. He has seen several in Berne, and refers to others elsewhere. In one epidemic in Berne it was traced to infection of the water supply. The complaint is clearly microbic in origin, but the responsible micro-organism has not been definitely identified. In one epidemic the *Bacillus proteus fluorescens* was considered to be the responsible agent, and in others the *Bacillus coli*. Inconclusive results were obtained from clumping with typhoid and paratyphoid bacilli. Hutinel and Prosper Merklen (*Les maladies des enfants*, Hutinel, vol. iii) state that epidemics would appear to be more common in England than elsewhere. They refer to the account of one by Brunnig in the eighteenth century, and to later ones by Meissner, Holmes, Rehn, and Meinert. They give references to BRITISH MEDICAL JOURNAL, 1894, vol. i; Hermann Flesch, *Jahrb. f. Kinderheilk.*, 1904, Bd. lx; Fringuet, *Presse méd.*, 5 Juillet, 1899; Renon, *Thèse de Paris*, 1895; Lireux, *Thèse de Paris*, 1894. The works of Pfaundler and Schlossmann, and Hutinel contain descriptions of the epidemic form of the disease. Another account will be found in the article by Dr. William Hunter in Allbutt's *System*.

### THE INTERNAL USE OF COCAINE.

DR. J. C. MCWALTER (Dublin) writes: In a lecture at Belfast on Pharmacological Facts and Fancies, Professor Dixon admitted that the prevalent use of hydrocyanic acid as a gastric sedative in cases of cough or stomach trouble might possibly have a scientific foundation, but he suggested that equally good results were obtained from minute doses of cocaine. Now I have tried cocaine, and have found it an amazing failure, so much so that I hesitate to give it again until fortified with the opinion of others. The cases were ordinary ones of pharyngeal cough, subacute gastritis, and gastric ulcer. In all of them the use of morphine and hydrocyanic acid seemed to relieve, whilst the use of cocaine, which was given in doses of $\frac{1}{3}$ grain to $\frac{1}{4}$ grain internally in solution, appeared to aggravate the condition, actually causing or increasing the vomiting and inducing a vague feeling of nausea and discomfort, which repelled the patient from its use. I should like to learn the experience of your readers on this question of the internal use of cocaine for vomiting, as the references in the textbooks are very vague. For many years I have observed that cocaine given with port wine or coca wine, in doses of $\frac{1}{16}$ grain to $\frac{1}{8}$ grain, was likely to cause nausea or vomiting, unless the patient was moderately strong, but it is, in my experience, by no means so likely to disagree as when given in an ordinary mixture.

## ANSWERS.

H. E. T.—The majority of bacteriologists use a 20 per cent. dilution of sulphuric acid for the removal of fuchsin stains from the fingers. Washing with alcohol after may be found advantageous, but is not necessary. The acid does not harm the skin if the process is rapidly carried out and the hands well rinsed afterwards.

### RECURRENT MASTITIS.

DR. PERCY NEWELL (St. Leonards-on-Sea) writes: I would recommend "P." to try the internal administration of tinct. phytolaccæ decandræ 5 minims, ex aqua ter die; and an ointment of the same with a lanolin basis locally.

### PRURIGO SENILIS.

F.R.C.P. advises "Nemo" to try the effects of swabbing with best lavender water. I have seen ("F.R.C.P." adds) excellent effects follow this application in an elderly man who recently consulted me. The application might be made over a small area as a trial, since the alcohol which lavender water contains causes some little smarting at first.

### URINARY ANALYSIS.

A. H.—(1) The method most usually employed for estimating nitrogen existing as ammonia or its compounds in the urine is the magnesium carbonate distilling method, which is performed *in vacuo*. (2) Kjeldahl's method is the best method of estimating total nitrogen in urine, and the nitrogen existing in organic combination may be calculated from this estimation by subtracting the nitrogen values ascertained by the ammonia estimation from the total nitrogen. (3) Although several excellent and comparatively simple new methods of quantitative estimation of acetone in urine have recently been described in the *American Journal of Physiology*, the most reliable method in general use is that described by Messinger in 1888, of estimating it as iodoform.

The mode of making these analyses is described in full in Neubauer and Vogel's *Analyse des Harns*, which is the most complete book on the subject with which we are acquainted. Dr. J. Dixon Mann gives useful accounts of the estimation of ammonia, total nitrogen and acetone (*inter alia*), in his *Physiology and Pathology of the Urine* (Ch. Griffin and Co., London, 1904). Speaking generally, our correspondent would probably do well to provide himself with a copy of the last edition of *Clinical Diagnosis*, by Rudolf v. Jaksch, M.D., fifth English edition, edited by Archibald E. Garrod, M.D., F.R.C.P. (London: Griffin and Co. 1905. 24s.)

## LETTERS, NOTES, ETC.

ERRATUM.—In the fourth line of Mr. E. Waggett's letter on "The Universal Service Petition," published last week, p. 547, for "rational" read "national."

### A DISCLAIMER.

DR. G. E. HALSTEAD (Ramsgate) writes: I have had sent to me from a temperance organization in Sheffield a copy of a tract concerning alcohol. I have no complaint to make about the bulk of its contents, which are mostly extracts from a newspaper article written by me in reply to a criticism in that newspaper concerning an address given here by me. But at the end of the tract are five lines of description of my qualifications, etc.—information evidently obtained from the *Medical Directory*—and an incorrect statement as to authorship. Of the insertion of these five lines in the tract I most strongly disapprove. Until I saw the tract on February 17th I knew nothing of its existence or of the organization which published it. I at once wrote to the secretary, asking him to stop as completely as possible the circulation of the tract in its present form, and in any future copies to black out the personal paragraph to which I strongly object.

### LACTIC ACID AS AN ANTISEPTIC.

DR. FRANCIS BOND (Gloucester) writes: "In common, no doubt, with many of your other readers I was much struck on reading the remarkable article in the JOURNAL of January 22nd last, by Dr. David Watson, Surgeon to the Glasgow Lock Hospital, on the treatment of gonorrhoeal and mixed infections of the female genital tract by lactic acid bacilli. The results obtained by Dr. Watson by the injection of sour whey into the vagina of patients affected with chronic gonorrhoea, in producing a speedy cure, at once suggested to me, as they may possible have done to others, the question, If lactic acid is so effective in destroying the vitality of such a persistent and intractable organism as the gonococcus, why should it not be equally effective in destroying such much weaker organisms as the Klebs-Loeffler bacillus of diphtheria and the specific germ of scarlet fever, whatever that may be? We have learnt from the well-known researches of Metchnikoff and others the power of lactic acid in inhibiting the *Bacillus coli* and other faecal bacteria, and it is, therefore, not unreasonable to assume that it may possess the same influence over all pathogenic germs.

"So impressed was I with the importance of these considerations that I at once instituted, with the kind assistance of Dr. Cossham, the Medical Superintendent of the Cirencester Isolation Hospital, an experiment for the purpose of testing the value of the above assumption, by having the throats and noses of some children, in whom the Klebs-Loeffler bacillus was diagnosed to be in full virulence, systematically sprayed with some acid whey which I had specially prepared for the purpose. The result was so satisfactory as to indicate the desirabliity of repeating the experiment on a larger scale so soon as appropriate subjects and reliable means of applying the treatment could be secured.

"Meantime the experiment is one which any medical officer of health or medical practitioner can easily make for himself, and, if he finds any trouble in obtaining an appropriate form of whey for the purpose, I shall be glad to inform him where he can procure a reliable article."

Dr. Bond also suggests that the lactic acid treatment might be applied in typhoid fever, and we may therefore refer to the paragraph in the BRITISH MEDICAL JOURNAL of July 10th, 1909, p. 100, founded on the *Memorandum by the Director-General, Army Medical Service, on the Transmission of Enteric Fever by the "Chronic Carrier"* [Cd. 4,609]. From this it will be seen that the method was used in two army cases in which the bacilli were excreted only in the faeces. One case appeared to be cured, but in the other no very distinct benefit was observed. The idea of treating typhoid carriers with lactic acid bacilli had also occurred to Professor Drigalski, who, in conjunction with Professor Fraenkel, carried out observations on two cases with apparently successful results.

In commenting further upon this subject Dr. Bond says: "I have always maintained the view that it is not the lactic acid bacilli which are the direct sources of the valuable dietetic properties of sour milk, sour whey, sour buttermilk, or sour cheese, but lactic acid itself and possibly some special enzymes which, as Duclaux originally suggested, these bacilli secrete. It is the more important to note this point, for with the fall of the pretty theory about the conflict between the lactic acid bacilli and the saprophytic organisms of the colon collapses also the interested and commercial talk about the importance of securing special forms of these bacilli, to which Metchnikoff unfortunately lent the weight of his name in the somewhat illogical connexion which he traced between the longevity of Bulgarian peasants and the alleged influence of a special form of Bulgarian bacillus.

"I may be allowed to conclude by pointing out that the science of cheesemaking, at least so far as the neutralization of the effect of taints in the milk and the prevention of putrefactive fermentation during the ripening of the curd into cheese are concerned, depends entirely on the recognition of the antiseptic influence of the lactic acid developed during the process from the fermentation of the milk sugar. If it were not for this property of lactic acid cheesemaking would be impossible, for the curd obtained by the action of rennet on the albumenoid elements of the milk would soon become a stinking mass."


**SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.**

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Advertisements should be delivered, addressed to the Manager, 429, Strand, London, not later than the first post on Wednesday morning preceding publication, and, if not paid for at the time, should be accompanied by a reference.

NOTE.—It is against the rules of the Post Office to receive poste *Restante* letters addressed either in initials or numbers.

# Association Notices.

## BRANCH AND DIVISION MEETINGS TO BE HELD.

LANCASHIRE AND CHESHIRE BRANCH.—A meeting of the Branch Organization and Finance Committee will be held at the Liverpool Medical Institution on Wednesday, March 9th, at 4.30 p.m.—F. CHARLES LARKIN, Honorary Secretary, 54, Rodney Street, Liverpool.

LANCASHIRE AND CHESHIRE BRANCH: ALTRINCHAM DIVISION.—A special meeting of the Division will be held in the Board Room of the Altrincham Hospital on Thursday, March 17th, at 4.30 p.m. prompt. Tea will be served at 4 p.m. Further particulars in future notice.—H. G. COOPER, Honorary Secretary.

LANCASHIRE AND CHESHIRE BRANCH: WARRINGTON DIVISION.—A meeting of the Division will be held at the Infirmary, Warrington, on Tuesday, March 8th, at 4 p.m. Agenda: Research Defence Society. Hospitals Board (SUPPLEMENT, April 10th, 1909). Poor Law Reform (SUPPLEMENT, February 5th, 1910). The Relation of Homœopathy to the Association (SUPPLEMENT, February 12th, 1910). Medical Sociology. Public Medical Service. Other correspondence.—T. A. MURRAY, Honorary Secretary.

SOUTH-EASTERN BRANCH: MAIDSTONE DIVISION.—The next meeting of this Division will be held on Friday, March 25th, 1910, at 3.30 p.m. The Executive meeting will be at 3 p.m. Any member having subjects to bring forward is requested to communicate with the Honorary Secretary, as early as possible. —GEORGE POTTS, Honorary Secretary, Ophthalmic Hospital, Maidstone.

YORKSHIRE BRANCH.—The next meeting of the Branch will be held at the Bull Hotel, Wakefield, on Wednesday, March 16th, at 4 o'clock. Council meeting at 3.15. Members intending to read papers, show cases, or propose new members are requested to communicate at once with the Honorary Secretary. Members will dine together at 6.30.—ADOLPH BRONNER, Bradford, Honorary Secretary.

# Vacancies and Appointments.

*This list of vacancies is compiled from our advertisement columns, where full particulars will be found. To ensure notice in this column, advertisements must be received not later than the first post on Wednesday morning.*

## VACANCIES.

ASHTON-UNDER-LYNE UNION.—Assistant Resident Medical Officer (male). Salary, £130 per annum.

BIRMINGHAM: GENERAL HOSPITAL.—Assistant House-Surgeon. Salary at the rate of £40 per annum.

BIRMINGHAM: QUEEN'S HOSPITAL.—House-Surgeon. Salary at the rate of £50 per annum.

BRADFORD CHILDREN'S HOSPITAL.—House-Surgeon (male). Salary, £100 per annum.

BROMLEY BOROUGH EDUCATION COMMITTEE.—Temporary School Medical Officer (female). Salary at the rate of £20 per calendar month.

CARDIFF: UNIVERSITY COLLEGE OF SOUTH WALES.—Professor of Pathology and Bacteriology. Salary, £450 per annum.

CARLISLE: CUMBERLAND INFIRMARY.—Resident Medical Officer (male), to act as House-Physician and House-Surgeon for six months each. Salary at the rate of £80 and £100 per annum respectively.

CENTRAL LONDON OPHTHALMIC HOSPITAL, Gray's Inn Road, W.C.—House-Surgeon. Salary at the rate of £50 per annum.

CHELSEA HOSPITAL FOR WOMEN, Fulham Road, S.W.—Clinical Assistant

CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST, Victoria Park, E.—(1) House-Physician (male); salary at the rate of £75 per annum. (2) Physician to Out-patients; honorarium, 40 guineas per annum.

CITY OF LONDON LYING-IN HOSPITAL, City Road, E.C.—Resident Medical Officer. Salary at the rate of £50 per annum.

EAST LONDON HOSPITAL FOR CHILDREN, Shadwell, E.—House-Surgeon (male). Salary at the rate of £75 per annum.

GREAT NORTHERN CENTRAL HOSPITAL, Holloway, N.—(1) Senior House-Surgeon. (2) Two Junior House-Surgeons. (3) Senior House-Physician. (4) Junior House-Physician. Salary for senior officers at the rate of £45 per annum and for juniors £35 per annum.

HUDDERSFIELD INFIRMARY.—(1) Senior Assistant House-Surgeon. (2) Junior House-Surgeon (males). Salary, £80 and £60 per annum respectively.

HULL ROYAL INFIRMARY.—House-Physician. Salary, £100 per annum.

LEEDS TUBERCULOSIS ASSOCIATION.—Resident Medical Officer for the Sanatorium at Gateforth. Salary at the rate of £100 per annum.

LIVERPOOL INFIRMARY FOR CHILDREN.—Resident House-Surgeon. Salary at the rate of £60 per annum.

LIVERPOOL: ROYAL SOUTHERN HOSPITAL.—(1) House-Physician. (2) House-Surgeon. Salary at the rate of £60 per annum each.

LONDON SCHOOL OF TROPICAL MEDICINE, Royal Albert Dock, E.—Craggs Research Prize. Value, £50.

MANCHESTER CHILDREN'S HOSPITAL, Pendlebury.—Male Resident Medical Officer. Salary for first six months £40, and for second six months £50.

MANCHESTER: VICTORIA UNIVERSITY.—(1) Ashby Memorial Scholarship, value £100. (2) Two Entrance Scholarships in Medicine, value £100 each.

MARGATE: ROYAL SEA BATHING HOSPITAL.—Resident Surgeon, to act as Junior and Senior for six months each. Salary at the rate of £80 and £120 per annum respectively.

METROPOLITAN HOSPITAL, Kingsland Road, N.E.—(1) Resident Anaesthetist. (2) House-Physician. (3) House-Surgeon. (4) Assistant House-Physician. (5) Assistant House-Surgeon. Salary at the rate of for (1) £80 per annum and £10 on completion of annual report, for (2) and (3) £40, and for (4) and (5) £20.

MIDDLESEX HOSPITAL, W.—Medical Registrar.

NATIONAL HOSPITAL FOR DISEASES OF THE HEART, Soho Square, W.—Honorary Assistant Physician.

NORWICH: NORFOLK EDUCATION COMMITTEE.—Assistant Medical Officer. Salary, £250 per annum.

NORWICH: JENNY LIND INFIRMARY FOR CHILDREN.—Lady Resident Medical Officer. Salary, £50 per annum.

NOTTINGHAM: GENERAL HOSPITAL.—Honorary Physician.

PRESTWICH: COUNTY ASYLUM.—Junior Assistant Medical Officer. Salary, £150 per annum, increasing to £250.

QUEEN'S HOSPITAL FOR CHILDREN, Hackney Road, E.—(1) Pathological Registrar. (2) Assistant Resident Medical Officer. (3) House-Surgeon. (4) Surgeon in charge for out-patient department. Salary at the rate of for (1) £200 per annum, for (2) £75, and (3) £60.

ROYAL HOSPITAL FOR DISEASES OF THE CHEST, City Road, E.C.—Dental Surgeon in Out-patient Department.

SALFORD ROYAL HOSPITAL.—(1) House-Surgeon. (2) Junior House-Surgeon. Salary at the rate of £60 and £50 per annum respectively.

SALFORD UNION.—Two Male Resident Medical Officers at the Union Infirmary. Salary, £120 per annum each.

STAFFORD: STAFFORDSHIRE GENERAL INFIRMARY.—Assistant House-Surgeon. Salary, £82 per annum.

SURGICAL AID SOCIETY, Salisbury Square, E.C.—Surgeon.

WARRINGTON INFIRMARY AND DISPENSARY.—Junior House-Surgeon. Salary at the rate of £100 per annum.

WARRINGTON UNION.—Assistant Resident Medical Officer (male). Salary, £125 per annum.

WINCHESTER: ROYAL HAMPSHIRE COUNTY HOSPITAL.—House-Physician.

WISBECH: NORTH CAMBRIDGESHIRE HOSPITAL.—Male Resident Medical Officer. Salary, £150 per annum.

CERTIFYING FACTORY SURGEON.—The Chief Inspector of Factories announces a vacancy at Montrose, co. Forfar.

## APPOINTMENTS.

ADAMS, W. F., M.R.C.S., L.R.C.P., Certifying Factory Surgeon for the Rayleigh District, co. Essex.

BARON, R. W., M.B., Ch.B.N.Z., District Medical Officer of the Hendon Union.

BARRS, J. W., F.R.C.S.I., Honorary Surgeon to the Walthamstow Hospital.

CARSTAIRS, C. Douglas, M.D., D.Sc., F.R.S.E., Extern Examiner in Medical Jurisprudence and Hygiene in the National University of Ireland.

FREER, R., M.D.Camb., District Medical Officer of the Lichfield Union.

GEOGHEGAN, A. V., M.D., B.Ch.Dub., Medical Officer of the Workhouse of the Risbridge Union.

MCGOWAN, N., L.R.C.P. and S.Edin., District Medical Officer of the Risbridge Union.

MILES, T. G., L.S.A., District Medical Officer of the Ross Union.

MOORE, S. G., M.D.Vict., D.P.H., Certifying Factory Surgeon for the West Huddersfield District, co. York.

MORROW, H. L., M.B., Ch.B.Edin., Certifying Factory Surgeon for the Ballylesson District, co. Down.

PRATT, Eldon, M.D.Lond., M.R.C.S., L.R.C.P., Honorary Surgeon, Whitehaven and West Cumberland Infirmary.

ROWLEY, O. F., M.R.C.S., L.R.C.P., District Medical Officer of the Penistone Union.

SMALLWOOD, E., M.D., M.R.C.S., L.R.C.P., L.S.A., Medical Officer for the Norwood District; Medical Officer to the Home for Aged Poor, Norwood.

SMARTT, W., F.R.C.S., L.R.C.P.Irel., District Medical Officer of the Brixworth Union.

WATSON, J. N., M.R.C.S., L.R.C.P., Certifying Factory Surgeon for the Wootton Basset District, co. Wilts.

WHITELEY, H. W., M.B., Ch.B.Vict., District Medical Officer of the Bradford (Yorks) Union.

## BIRTHS, MARRIAGES, AND DEATHS.

***The charge for inserting announcements of Births, Marriages, and Deaths is 3s. 6d., which sum should be forwarded in post-office orders or stamps with the notice not later than Wednesday morning, in order to ensure insertion in the current issue.***

### BIRTH.

TURNER.—On February 27th, at 17, Harley Street, W., the wife of William Turner, M.S., F.R.C.S., of a son (Douglas Hamilton).

### DEATHS.

CLARK.—On February 24th, at Lichfield, James Clark (only son of John Clark), M.D.Univ.Aberd., L.R.C.S.E., F.R.C.S.E., aged 75. Friends please accept this (the only) intimation.

PITTS-TUCKER.—On February 23rd, at Sutton, Isle of Ely, suddenly, F. A. Pitts-Tucker, M.R.C.S., L.R.C.P., aged 42.

SPENCE.—At St. Ninians, Burntisland, on February 24th, Robert Spence, M.B., C.M., aged 62 years.

## DIARY FOR THE WEEK.

### MONDAY.

MEDICAL SOCIETY OF LONDON, 11, Chandos Street, Cavendish Square, W., 9 p.m.—Third Lettsomian Lecture: Dr. J. S. Risien Russell: The Cerebellum and Its Affections.

ROYAL COLLEGE OF SURGEONS OF ENGLAND, Lincoln's Inn Fields, W.C., 5 p.m.—Professor R. H. Paramore: The Evolution of the Pelvic Floor in Non-Mammalian Vertebrates and Pronograde Mammals.

### TUESDAY.

ROYAL COLLEGE OF PHYSICIANS OF LONDON, Pall Mall East, S.W., 5 p.m.—Second Goulstonian Lecture, by Dr. J. S. Bolton: A Contribution to the Localization of Cerebral Function, Based on the Clinico-Pathological Study of Mental Disease.

ROYAL SOCIETY OF MEDICINE:

SURGICAL SECTION, 5.30 p.m.—Papers:—Mr. Somerville Hastings: Rupture of the Tunica Vaginalis in Hydroceles. Dr. W. Soltau Fenwick: The Clinical Significance of Gastric Hypersecretion, and Its Connexion with Latent Disease of the Appendix. Mr. H. Paterson: Appendicular Gastralgia of the Appendix as a Cause of Gastric Symptoms.

### WEDNESDAY.

HUNTERIAN SOCIETY, London Institution, Finsbury Circus, E.C., 8.30 p.m.—Short papers by Dr. J. H. Sequeira, Dr. Ettles, and Dr. Theodore Thompson.

ROYAL COLLEGE OF SURGEONS OF ENGLAND, Lincoln's Inn Fields, W.C., 5 p.m.—Professor C. Bolton: The Pathology of Gastric Ulcer.

ROYAL SOCIETY OF MEDICINE:

BALNEOLOGICAL AND CLIMATOLOGICAL SECTION, 5.30 p.m.—Discussion on Arthritis Deformans will be opened by Dr. Llewelyn Jones (Bath).

UNITED SERVICES MEDICAL SOCIETY, Royal Army Medical College, Grosvenor Road, S.W., 8.30 p.m.—Paper:—Staff-Surgeon H. C. Adams, R.N.: Treatment of Syphilis by Intramuscular Injection of Metallic Mercury, Notes on Mercurial Creams, etc.

### THURSDAY.

OPHTHALMOLOGICAL SOCIETY OF THE UNITED KINGDOM, 11, Chandos Street, Cavendish Square, W., 8 p.m.—Card Exhibits by Dr. T. H. Butler, etc. Papers:—Mr. M. L. Hepburn: Xerosis of the Conjunctiva and Night Blindness. Mr. R. R. James: A Contribution to the Bacteriology of Panophthalmitis.

ROYAL COLLEGE OF PHYSICIANS OF LONDON, Pall Mall East, S.W., 5 p.m.—First Lumleian Lecture, by Professor W. Osler, F.R.S.: Angina Pectoris.

ROYAL SOCIETY OF MEDICINE:

OBSTETRICAL AND GYNAECOLOGICAL SECTION, 7.45 p.m.—Specimens: Dr. F. J. McCann: (1) Sarcoma of Cervix Removed by Abdominal Colpo-hysterectomy; (2) Abdominal Pregnancy. Demonstration with Epidiascope: Mr. T. Carwardine: Microscopical Appearances in Tubal Pregnancy. Short Communication: Dr. Russell Andrews: Carcinoma of the Cervix of a Prolapsed Uterus with Contact Carcinoma of the Vulva.

### FRIDAY.

ROYAL COLLEGE OF SURGEONS OF ENGLAND, Lincoln's Inn Fields, W.C., 5 p.m.—Professor C. Bolton: The Pathology of Gastric Ulcer.

ROYAL SOCIETY OF MEDICINE:

CLINICAL SECTION, 8 p.m.—Clinical Cases.

### POST-GRADUATE COURSES AND LECTURES.

BROMPTON HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, S.W.—Wednesday, 4 p.m., The Relation of Fibrosis to Tuberculosis.

CENTRAL LONDON THROAT AND EAR HOSPITAL, Gray's Inn Road, W.C.—Lectures: Tuesday, 3.45 p.m., Larynx. Thursday, 4.30 p.m., A Summary of Recent Pathological Experience on the Practice of the Hospital. Friday, 3.45 p.m., Larynx.

LONDON SCHOOL OF CLINICAL MEDICINE, Seamen's Hospital, Greenwich.—Daily arrangements: Out-patient Demonstration, 10 a.m.; Medical and Surgical Clinics, 2.15 p.m. and 3.15 p.m. respectively; Operations, 2 p.m. Special Clinics: Ear and Throat at noon and 4 p.m., Monday, and noon, Thursday; Skin, at noon and 4 p.m., Thursday, and noon Friday; Eye, 11 a.m., Wednesday and Saturday; Radiography, 4 p.m., Thursday. Special Lectures: Monday, 2.15 p.m., Stricture; Tuesday, 2.15 p.m., The Wasserman Reaction.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies Street, W.C.—The following clinical demonstrations have been arranged for next week, at 4 p.m. each day: Monday, Skin. Tuesday, Medical. Wednesday, Surgical. Thursday, Surgical. Friday, Ear, Nose, and Throat. Lectures, at 5.15 p.m. each day, will be given as follows: Monday, Treatment of Puerperal Infection. Tuesday, The Treatment of Pulmonary Tuberculosis by Bovine Tuberculin (Results of Treatment). Wednesday, Cancer of the Tongue. Thursday, The Treatment of Some of the Forms of Chronic Rheumatism.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen Square, W.C.—Tuesday, 3.30 p.m., Acute Encephalitis. Friday, 3.30 p.m., Apraxia and Agnosia.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.—Monday, Clinics, 2.30 p.m., Medical Out-patient: Nose, Throat and Ear; 4.30 p.m., Medical In-patient. Tuesday, 10 a.m., Medical Out-patient Clinic; 2.30 p.m., Operations; Clinics: Surgical, Gynaecological; 4.30 p.m., Lecture, Colitis and Pericolitis. Wednesday, 2.30 p.m., Medical Out-patient, Skin and Eye Clinics; *X* Rays. Thursday, 2.30 p.m., Gynaecological Operations; Clinics: Medical Out-patient; Surgical Out-patient; 3 p.m., Medical In-patient. 4.30 p.m., Lecture: The Clinical Features of Some Unusual Abdominal Tumours. Friday, 2.30 p.m., Operations; Clinics: Medical Out-patient, Eye; 3 p.m., Medical In-patient.

POST-GRADUATE COLLEGE, West London Hospital, Hammersmith Road, W.—The following are the arrangements for next week: Daily, 2 p.m., Medical and Surgical Clinics; *X* Rays; 2.30 p.m., Operations. Monday, Wednesday, and Thursday, 2 p.m., and Saturday, 10 a.m., Diseases of the Eye. Tuesday and Friday, 10 a.m., Gynaecological Operations; 2 p.m. (and Wednesday and Saturday, 10 a.m.), Diseases of Throat, Nose, and Ear; 2.30 p.m., Diseases of the Skin. Wednesday and Saturday, 10 a.m., Diseases of Children. Wednesday, 2.30 p.m., Diseases of Women. At 10 a.m., Monday and Thursday, Demonstration by Surgical Registrar. Friday, Demonstration by Medical Registrar. At 12 noon, Pathological Demonstration. At 12.15 p.m. Wednesday, Practical Medicine. At 5 p.m., Monday, Some Clinical Facts in the Study of Ophthalmic Disease. Tuesday, Clinical Lecture. Wednesday, Medicine. Thursday, Tonsillitis. Friday, Compression Paraplegia.

# CALENDAR OF THE ASSOCIATION.

| Date. | Meetings to be Held. |
|---|---|
| **MARCH.** | |
| 6 Sunday .. | |
| 7 MONDAY .. | LONDON: Standing Ethical Subcommittee, 2 p.m. |
| 8 TUESDAY .. | WARRINGTON DIVISION, *Lancashire and Cheshire Branch*, Infirmary, Warrington, 4 p.m. |
| 9 WEDNESDAY | LANCASHIRE AND CHESHIRE BRANCH, Meeting of Branch Organization and Finance Committee, Liverpool Medical Institution, 4.30 p.m.<br>LONDON: South-Eastern Branch Council, 3 p.m. |
| 10 THURSDAY .. | BIRMINGHAM BRANCH, Medical Institute, Edmund Street, 3.30 p.m. |
| 11 FRIDAY .. | |
| 12 SATURDAY .. | |
| 13 Sunday .. | |
| 14 MONDAY .. | |
| 15 TUESDAY .. | WEST SOMERSET BRANCH, Taunton and Somerset Hospital, 3.30 p.m. |

| Date. | Meetings to be Held. |
|---|---|
| **MARCH** *(continued)*. | |
| 16 WEDNESDAY | CARDIFF DIVISION, *South Wales and Monmouthshire Branch*, Cardiff.<br>RICHMOND DIVISION, *Metropolitan Counties Branch*, Medico-Political Meeting, Royal Hospital, Richmond, 8.30 p.m.<br>YORKSHIRE BRANCH, Bull Hotel, Wakefield, 4 p.m.; Council Meeting, 3.15 p.m.; Dinner, 6.30 p.m. |
| 17 THURSDAY .. | ALTRINCHAM DIVISION, *Lancashire and Cheshire Branch*, Special Meeting, Board Room, Altrincham Hospital, 4.30 p.m.; Tea, 4 p.m.<br>CITY DIVISION, *Metropolitan Counties Branch*, Brooke House, Upper Clapton, 8.30 p.m.<br>LAMBETH DIVISION, *Metropolitan Counties Branch*, Evelina Hospital, 4 p.m.<br>LONDON: Metropolitan Counties Branch Council, 4.30 p.m. |